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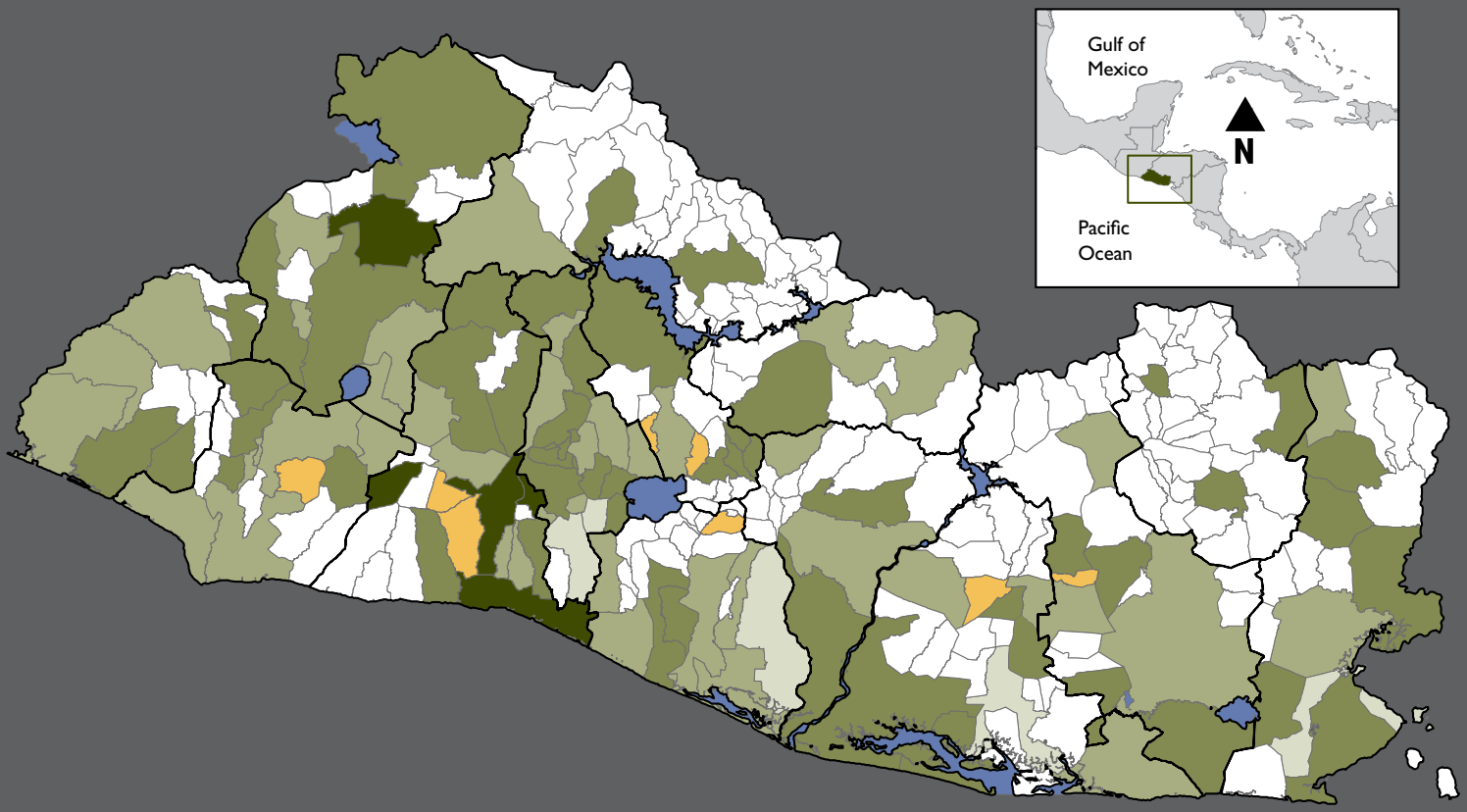
El Salvador Municipal Competitiveness Index 2011

Measuring Local Economic Governance to Create A Better Business Environment



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Measuring Local Economic Governance to Create A Better Business Environment

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CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

The Municipal Competitiveness Index (MCI) is one component of the U.S. Agency for International Development's (USAID's) Municipal Competitiveness Project (MCP) in El Salvador. The MCI's primary task is to gather baseline data on the business environment at the local level in El Salvador and to conduct an analysis of the results. The MCI's overarching goal is to identify administrative and regulatory constraints to private sector development. Additionally, by ranking municipalities against each other, the MCP aims to create a beneficial spirit of competition to remove the identified impediments to development. The principle behind the methodology is that a supportive business environment will enable local governments to attract and retain investment, promote trade, and increase economic growth and local employment.

The core methodology used to develop the MCI was employed previously in Asia, where it has proven to be a valuable way to promote dialogue and healthy competition regarding subnational private sector development. RTI International (RTI) and Escuela Superior de Economía y Negocios (ESEN) tailored the methodology to the El Salvador context in 2009 for the Municipal Competitiveness Index project, also supported by USAID.

The 2011 MCI is the second implementation of the methodology. As such, it enables the assessment of change relative to 2009 in the country's 100 most populous municipalities. In addition to these 100, the 2011 study included 8 new municipalities that are a part of the greater MCP initiative. The new municipalities are Alegría, Caluco, Comasagua, Nueva Guadalupe, San Bartolomé Perulapía, Santa Cruz Michapa, Santa María Ostuma, and Talnique. The results for these eight municipalities are presented separately in this report; the 2011 data provides only baseline information on their performance and therefore cannot be ranked.

MCI Methodology and Purpose

As described in the 2009 MCI study, the index serves the following several purposes and beneficiaries:

Identifies policy and regulatory constraints. Knowing the constraints, municipal, business, and community stakeholders can more easily discuss possible reforms and then take action to carry them out.

Introduces friendly competition. Municipalities with low scores on certain sub-indices can learn from their stronger neighbors; municipalities with high scores can draw attention to their successes by helping to replicate them.

Encourages advocacy. The business community can use the MCI report to identify and advocate for improved policies and procedures.

Informs national and international interests. Central government leaders and the donor community will be able to use the tool to develop action plans for reform and to identify best practices among Salvadoran municipalities for potential replication across the country and the region.

Stimulates further research. Students and scholars of economic development are encouraged to use the MCI analysis and data set for additional research on the topic.

Significant Findings

- MCI scores for all of the original 100 MCI municipalities increased. The 2011 scores showed an average increase of 0.4 points in 2011 relative to 2009.
- The top three performers retained their positions: Antinguo Cuscatlán maintained its top position, followed by La Libertad and Texistepeque.
- The distribution of the unweighted MCI scores were bunched more closely together toward the middle of the spectrum in 2011 compared to 2009, suggesting less variability among municipalities.
- Improvement was not uniform across the nine sub-indices that make up the MCI. On average, there

were improvements in the sub-indices of Time to Compliance, Rates and Taxes, Entry Costs, Public Safety, Municipal Services, and Transparency. The average scores of the Proactivity and Municipal Regulations sub-indices remained similar to 2009; however, the Informal Payments Sub-index declined in 2011. These results suggest that opportunities for improvement in key areas of municipal competitiveness still exist.

- The MCI is not equally sensitive to changes in its component sub-indices. Informal payments and the time businesses spent dealing with local regulations both appear to be important factors related to economic growth. Municipalities with greater improvements in these two areas seem to be better positioned to achieve levels of economic growth that are closer to their potential.
- Potential areas for improvement are similar in 2011 to 2009. Aspects requiring attention from local governments are as follows: improving access to local documents; implementing processes to inform citizens; providing facilities for tax payments; working actively to solve local business problems; reducing the incidence of informal payments; increasing crime prevention spending; alleviating the pressure of municipal inspections on local businesses; streamlining processes for the registration and operation of businesses; and improving the efficiency of tax spending on municipal services.

Dissemination and Sustainability

ESEN continues to take more ownership of the MCI, leading the activity in 2011 with regard to methodology decisions, survey field work, and analysis. The MCP anticipates that local ownership of the MCI in El Salvador will be solidified and that alternative sources of funding will be identified, allowing the MCI to be conducted on a consistent basis.

A shorter more user-friendly presentation of the MCI 2011 results was produced and distributed at a results dissemination event in San Salvador in January 2012. That presentation and short report, this report and a full ***Technical Appendix***, and all other MCI materials can be found on the bilingual MCI Web site at http://www.municipalindexelsalvador or http://www.indicemunicipalelsalvador.com.

In 2012, the MCI team will continue to disseminate the results of the index and information on the MCP through presentations to key stakeholders in each of the country's 14 departments, including mayors and other local officials, members of the business community, and other interested organizations. The MCI's goal is to provide an opening for continued constructive dialogues between the public and private sector at the local level to improve the business environment and advance the decentralization agenda in El Salvador.

Acknowledgements

Finally, we would like to thank all members of the MCI team for their dedicated efforts, the numerous stakeholders from both the public and private sectors who informed the survey design, and the thousands of respondents—business owners, mayors, and municipal officials—who took the time to be interviewed about their local business environment and municipal regulations.

SECTION 1: OVERVIEW: EL SALVADOR MUNICIPAL COMPETITIVENESS INDEX 2011

Certain locations experience greater and more rapid growth than others. Differentials in economic specialization, labor and human capital issues, institutions and democratic development can influence the pace of economic development in some locations (Blair, 2000; Storper, 2009; Glaeser et al., 2011). A key area in which local governments can seek to spur growth is by creating a business friendly environment. A business environment, or business climate, is impacted by the degree to which municipal governments generate, nurture, promote, and maintain conditions to attract the private investment required to reach sustainable levels of economic growth. Economic growth can be defined at the local level as increased levels of employment, taxes, and rates, which in turn enable the provision of good-quality municipal services and the enhancement of residents' well being (Fisher, 1997).

The MCI measures the following nine characteristics of the local business environment:

1. **Transparency:** Degree of openness to provide access to information and the predictability of changes to regulations affecting businesses in the municipality.
2. **Municipal Services:** Quality of services the municipality provides to the private sector.
3. **Proactivity:** Level of dynamism of a municipal government in developing and promoting initiatives aimed at attracting investment and improving local business conditions.
4. **Informal Payments:** Magnitude, incidence, and costs of informal payments required to start and operate a business.
5. **Public Safety:** Impact of crime on business owners' and municipalities' ability to prevent and control crime.
6. **Time to Compliance:** Frequency of inspections in each municipality and the degree to which they are carried out in an appropriate manner.
7. **Rates and Taxes:** Amount of local taxes and other charges required to operate a business.
8. **Entry Costs:** Time costs and ease of registering and beginning operations of a business.
9. **Municipal Regulations:** Number of regulations imposed on business operations.

The U.S. Agency for International Development (USAID), through the El Salvador Municipal Competitiveness Project (MCP), supports a research effort, titled the Municipal Competitiveness Index (MCI). The MCI is a tool used to measure the business environment at the local level in El Salvador.

The MCI assesses the business environment through face-to-face surveys with business owners, mayors, and municipal officials, attempting to capture the actual experiences of privately owned businesses of all sizes, both formal and informal, provided they operate from a fixed location. Importantly, the MCI does not measure the total investment environment. Rather, it excludes initial structural conditions and resource endowments, such as population size, location, natural resources, and access to markets and skilled labor. This methodology allows us to rank municipalities on a level playing field despite very different endowments and stages of development. The MCI focuses on aspects of the local economy over which municipal governments have equal control, providing information that is actionable by all local governments.

MCI 2011: The Second Measurement

The 2011 MCI is the second measurement of the local business environment in El Salvador. Under the USAID-funded Municipal Competitiveness Index project, the first MCI was constructed in 2009 with the most populous 100 municipalities. These municipalities account for 81% of the population and 92% of businesses.[1] The 2011 MCI included the same 100 municipalities as 2009 but also added 8 new municipalities, which are part of the greater USAID-funded MCP currently underway. The new municipalities are Alegría, Caluco, Comasagua, Nueva Guadalupe, San Bartolomé Perulapía, Santa Cruz Michapa, Santa María Ostuma, and Talnique. Together, the new municipalities represent 1.3% and 0.4% of the country's total population and businesses, respectively.

[1] Full results of the 2009 MCI area available from http://www.municipalindexelsalvador.com/gal_documentos/Reporte-ICM.pdf.

The construction of the 2011 MCI took place during a period of difficult economic conditions and political change, following the election of a new government and the deepening of the global economic recession. The newly elected government implemented an active policy of decentralization aimed at enhancing the role of municipal governments in key social and economic aspects of national life. Local governments are encouraged to develop capabilities to improve the business climate to attract investment, increase employment, and achieve healthier finances.

As the second measurement of economic governance in the municipalities of El Salvador, the 2011 MCI enables the assessment of change relative to 2009. Despite the relatively short period elapsed between 2009 and 2011, one can focus on changes in the MCI sub-indices to identify areas of real or potential improvement. To enable comparability over time, this report presents the 2011 MCI findings separately for the 100 municipalities that also participated in the 2009 study and the 8 municipalities that entered the 2011 study for the first time. While the 2011 scores provide a similar measure of competitiveness for all 108 municipalities (shown in alphabetical order at the end of this report in ***Table 19***), the inclusion of the new municipalities affects the overall rankings in a manner that does not accurately reflect the relative change in performance from the earlier MCI. Scores for the new municipalities will be consolidated into the rankings in the 2013 index. The ***Technical Appendix*** provides a full discussion of the methodological aspects of the 2011 MCI and is available from the MCI Web site.

To better assess change over time in the 100 municipalities included in both the 2009 and 2011 studies, panel data was gathered in 2011, meaning a total of 957 businesses selected in the 2011 survey were also included as part of the 2009 sample. This overlapping sample represented 22.2% of the 4,313 businesses selected within the 100 municipalities that participated in both the 2009 and 2011 MCI studies. The responses from the businesses interviewed in both 2009 and 2011 were weighted more heavily in the construction of the index and sub-indices to provide stability over time. The overlapping sample should reflect actual changes in governance, as these respondents are the same each year, and minimize the possibility that changes are a result of a different distribution of respondents. This procedure was applied to each of the nine sub-indices making up the MCI and is explained in detail in the ***Technical Appendix***.

The Municipal Environment

El Salvador is organized into 14 departments and 262 municipalities. The 108 municipalities that participated in the 2011 MCI vary greatly in terms of population, urbanization, geographic location, level of economic and social development, and institutional setting. As the MCI examines the relationship between good governance and economic growth, this section provides an overview of the participating 108 municipalities in terms of several factors identified in a literature review as major drivers of observed differences in local economic performance. The lack of comprehensive sources of up-to-date statistical data at the municipal level led us to use data from the last population census, conducted in 2007, and data from the human development reports (United Nations Development Program [UNDP], 2006, 2010) to portray a picture of the 108 local governments included in the study.

The latest economic census, conducted in 2005, found a total of 179,817 business operations across the country. Economic activity is heavily concentrated in a few departments, with 73% of all businesses (131,266 firms) located in five departments (La Libertad, San Miguel, San Salvador, Santa Ana, and Sonsonate), and 64% of formal businesses in San Salvador and La Libertad. The businesses located in these two departments generate 69% of total employment (747,226 jobs) and 76% of paid employment (535,839 jobs).[2] Most businesses are informal—only 17% of businesses (30,206 firms) counted by the census keep formal accounting records. Women owned 50.8% of businesses included in the 2011 MCI sample. A total of 99.3% of women-owned establishments had less than 10 employees and were classified as micro-sized businesses; 0.6% were small-

[2] Many businesses employ family members without pay.

sized businesses (i.e., between 10 and 49 employees); and 0.01% were medium-sized businesses (i.e., between 50 and 99 employees). Of the total of establishments owned by a male, 98.5% were micro-, 1.4% were small-, and 0.1% were medium-sized businesses.

In the ***Technical Appendix***, we present a more detailed analysis of the local business environment and how key variables are related to structural conditions for local economic development for each of the 108 municipalities. The variables include dependency ratio; urban population as percent of total population; percent population with secondary and higher schooling; phones per 100 households; distance from San Salvador; and human development index (HDI).

One major hypothesis driving this study is that a business-friendly environment increases opportunities for growth beyond these initial structural conditions. In fact, the 2009 MCI study demonstrated that after controlling for initial endowments, a one-point increase in the MCI was associated with a 7% per capita gross domestic product (GDP) differential in favor of high-performing municipalities. This indicates that at every level of initial resource conditions, better-managed municipalities are associated with a higher level of economic well-being.

2011 MCI Overall Ranking

The 2011 MCI used exactly the same data collection and data analysis methods employed in implementing the 2009 MCI, thus enabling the comparison of aggregate scores over time. Technically, the MCI is a composite index representing the weighted sum of the scores of the nine sub-indices based on the weights shown in the second column of ***Table 1***. In 2009, these weights were computed using a three-step statistical procedure (refer to the ***Technical Appendix***). A review to this procedure, using the 2011 data, indicated that the weights remained stable, and, therefore, they could be used to calibrate the 2011 MCI scores.

In 2011, the MCI averaged 6.19, a score significantly greater by 0.4 points than the 5.80 average in the 2009 MCI. It is important to highlight that all 100 municipalities registered an improvement in the level of competitiveness as measured by the index. However, not all of the MCI sub-indices improved in 2011. ***Table 1*** shows that on average, the 100 municipalities included in both the 2009 and 2011 studies improved in the sub-indices for Time to Compliance (1.56 points), Rates and Taxes (1.06 points), Entry Costs (0.85 points), Public Safety (0.66 points), Municipal Services (0.54 points), and Transparency (0.15 points). On the other hand, there was a decline in the Informal Payments Sub-index (0.55 points), implying that petty corruption has worsened. The values of the Proactivity and Municipal Regulations sub-indices did not change significantly in 2011 relative to 2009.

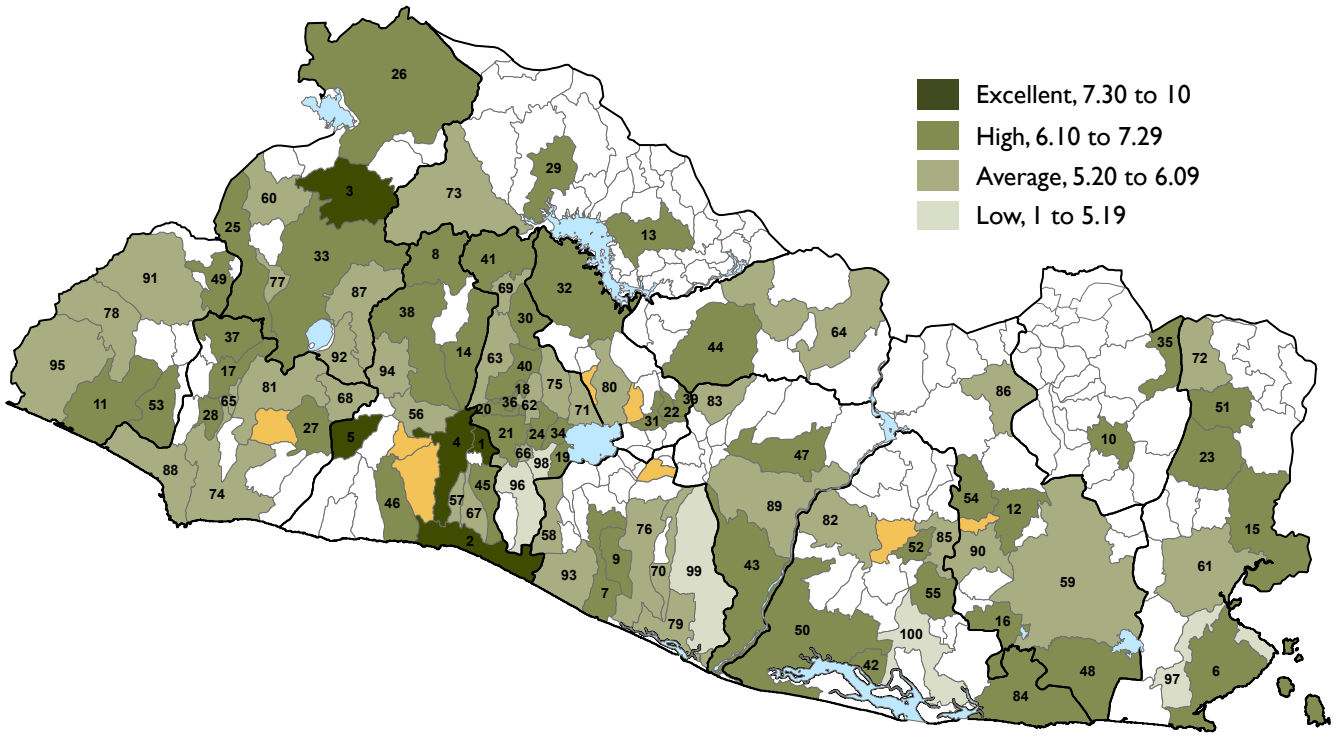
Table 1: Average Values, MCI, and Sub-indices, 2011

	Contribution to Total MCI (1)	Indices		
		2009	2011	Absolute Change
Final MCI	***100***	***5.80***	***6.20***	***0.40****
Time to Compliance	10	4.97	6.53	1.56*
Rates and Taxes	10	4.31	5.37	1.06*
Entry Costs	5	8.23	9.08	0.85*
Public Safety	10	6.66	7.33	0.66*
Municipal Services	15	3.24	3.78	0.54*
Transparency	15	5.68	5.83	0.15*
Proactivity	15	5.55	5.50	-0.05
Municipal Regulations	5	8.44	8.37	-0.07
Informal Payments	15	8.11	7.55	

* Significant at the 1% level in t-tests for matched samples.

(1) The percentages represent the weight that each sub-index has in forming the final MCI, both in 2009 and 2011.

Figure 1: El Salvador MCI 2011



Rank	Municipality	Score
1	Antiguo Cuscatlán	8.01
2	La Libertad	7.78
3	Texistepeque	7.60
4	Santa Tecla	7.48
5	Tepecoyo	7.42
6	Conchagua	7.29
7	San Pedro Masahuat	7.29
8	San Pablo Tacachico	7.09
9	El Rosario	7.06
10	San Francisco Gotera	7.03
11	Jujutla	7.00
12	Moncagua	6.92
13	Chalatenango	6.88
14	Quezaltepeque	6.80
15	Pasaquina	6.76
16	El Tránsito	6.74
17	Nahuizalco	6.71
18	Cuscatancingo	6.71
19	Santiago Texacuangos	6.67
20	Mejicanos	6.64
21	San Salvador	6.64
22	El Carmen	6.62
23	Santa Rosa De Lima	6.59
24	Soyapango	6.57
25	Chalchuapa	6.57
26	Metapán	6.54
27	San Julián	6.53
28	San Antonio Del Monte	6.53
29	Tejutla	6.52
30	Guazapa	6.50
31	Cojutepeque	6.50
32	Suchitoto	6.48
33	Santa Ana	6.48
34	Ilopango	6.43
35	Corinto	6.42
36	Ayutuxtepeque	6.39
37	Juayúa	6.37
38	San Juan Opico	6.33
39	San Rafael Cedros	6.33
40	Apopa	6.32
41	El Paisnal	6.31
42	Puerto El Triunfo	6.30
43	Tecoluca	6.26
44	Ilobasco	6.26
45	Huizúcar	6.26
46	Tamanique	6.22
47	Apastepeque	6.22
48	Chirilagua	6.19
49	Atiquizaya	6.19
50	Jiquilisco	6.19
51	Anamorós	6.16
52	Santiago de María	6.15
53	Guaymango	6.11
54	Lolotique	6.11
55	Santa Elena*	6.10
56	Colón	6.09
57	Zaragoza	6.09
58	Olocuilta	6.07
59	San Miguel	6.05
60	Candelaria De La Frontera	6.05
61	San Alejo	6.04
62	Delgado	6.04
63	Nejapa	6.01
64	Sensuntepeque	6.01
65	Sonzacate	5.97
66	San Marcos	5.94
67	San José Villanueva	5.94
68	Armenia	5.90
69	Aguilares	5.86
70	San Juan Nonualco	5.84
71	San Martín	5.81
72	Lislique	5.79
73	Nueva Concepción	5.75
74	Sonsonate	5.74
75	Tonacatepeque	5.72
76	Santiago Nonualco	5.71
77	San Sebastián Salitrillo	5.70
78	Tacuba	5.70
79	San Luis De La Herradura	5.68
80	San Pedro Perulapán	5.68
81	Izalco	5.59
82	Berlín	5.58
83	San Sebastián	5.58
84	Jucuarán	5.57
85	Jucuapa	5.56
86	Ciudad Barrios	5.51
87	Coatepeque	5.50
88	Acajutla	5.49
89	San Vicente	5.42
90	Chinameca	5.41
91	Ahuachapán	5.35
92	El Congo	5.30
93	San Luis Talpa	5.29
94	Ciudad Arce	5.27
95	San Francisco Menéndez	5.26
96	Panchimalco	5.10
97	La Unión	5.09
98	Santo Tomás	5.02
99	Zacatecoluca	4.95
100	Usulután	4.94

*Santa Elena's performance group designation was corrected to High to accurately reflect its score.

These results suggest that despite the general increase in the overall MCI observed in 2011, opportunities for improvement continue to exist everywhere, but the most urgent are the areas of municipal competitiveness related to Proactivity, Informal Payments, and Municipal Regulations.

The 100 municipalities were classified into five groups with regard to their performance on the index: (1) Excellent, (2) High, (3) Average, (4) Low, and (5) Very Low. In determining the groups, the breakpoints used in 2009—adjusted for the average change in the MCI—were maintained in 2011. ***Table A-15*** in the ***Technical Appendix*** shows the breakpoints used in 2009 and their 2011 adjusted values.

The final 2011 MCI ranking for the 100 municipalities is shown in ***Figure 1*** on the previous page. Antiguo Cuscatlán obtained the highest MCI score in 2011 (8.01), retaining the top position that it achieved in 2009. La Libertad (7.78) and Texistepeque (7.60) also maintained the second and third positions, respectively, in 2011, which they previously held in 2009. Santa Tecla (7.48) moved from seventh in 2009 to fourth in 2011, while Tepecoyo (7.42) moved from sixth in 2009 to fifth in 2011. These five municipalities are classified as having an Excellent level of performance in 2011. The 2009 MCI also noted five Excellent performing municipalities, though the composition changed.

In 2011, 50 municipalities were classified as achieving a High MCI performance—one more than in 2009. The number of local governments classified in the Average performance group declined from 44 in 2009 to 40 in 2011, whereas the number of municipalities in the Low performance group increased from 2 in 2009 to 5 in 2011. With the exception of the lower end of the MCI rankings, the composition of the performance groups in 2011 were similar to those in 2009.

Figure 2 shows the weighted MCI for the eight new municipalities entering the study for the first time in 2011. These municipalities have both small populations and relatively low levels of economic activity. Comasagua was the municipality that recorded the highest value for the MCI, with 5.59, whereas San Bartolomé Perulapia was the local government with the lowest value within this group of municipalities.

Figure 2: El Salvador MCI 2011 8 New Municipalities in 2011

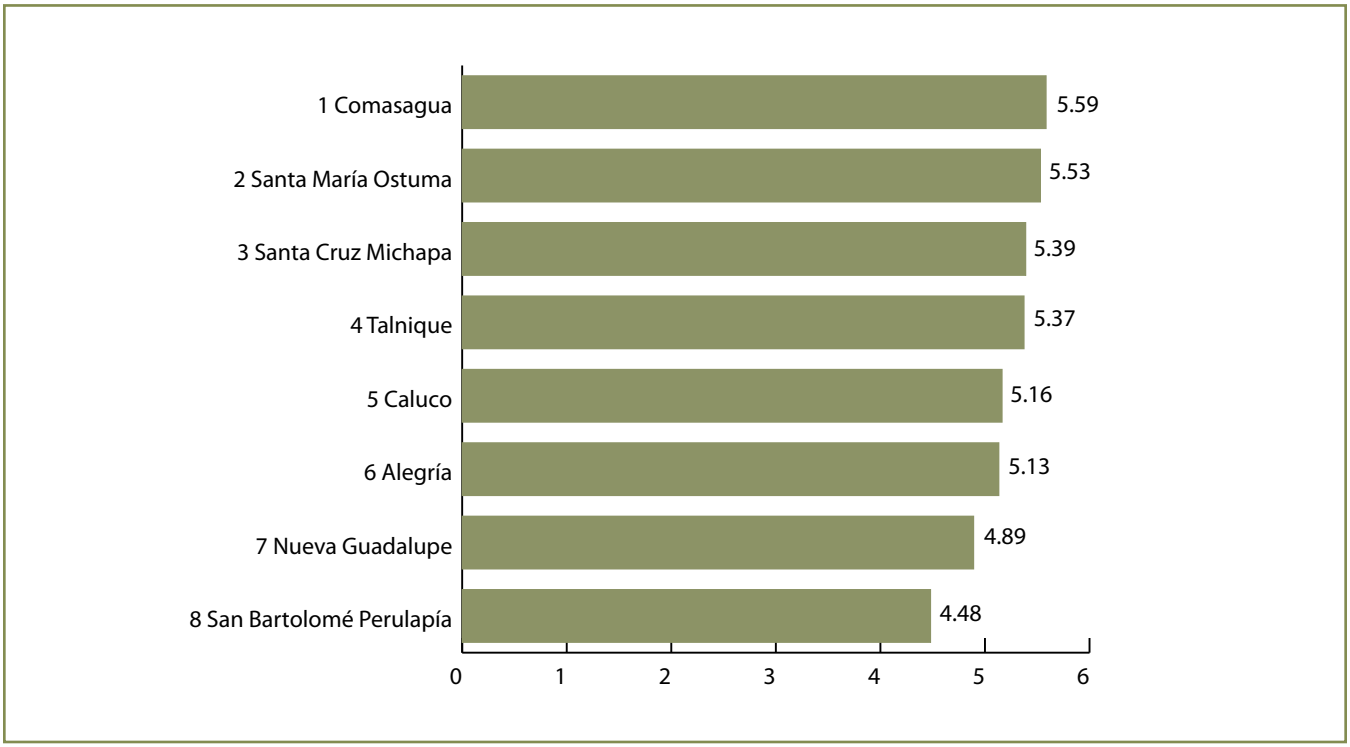
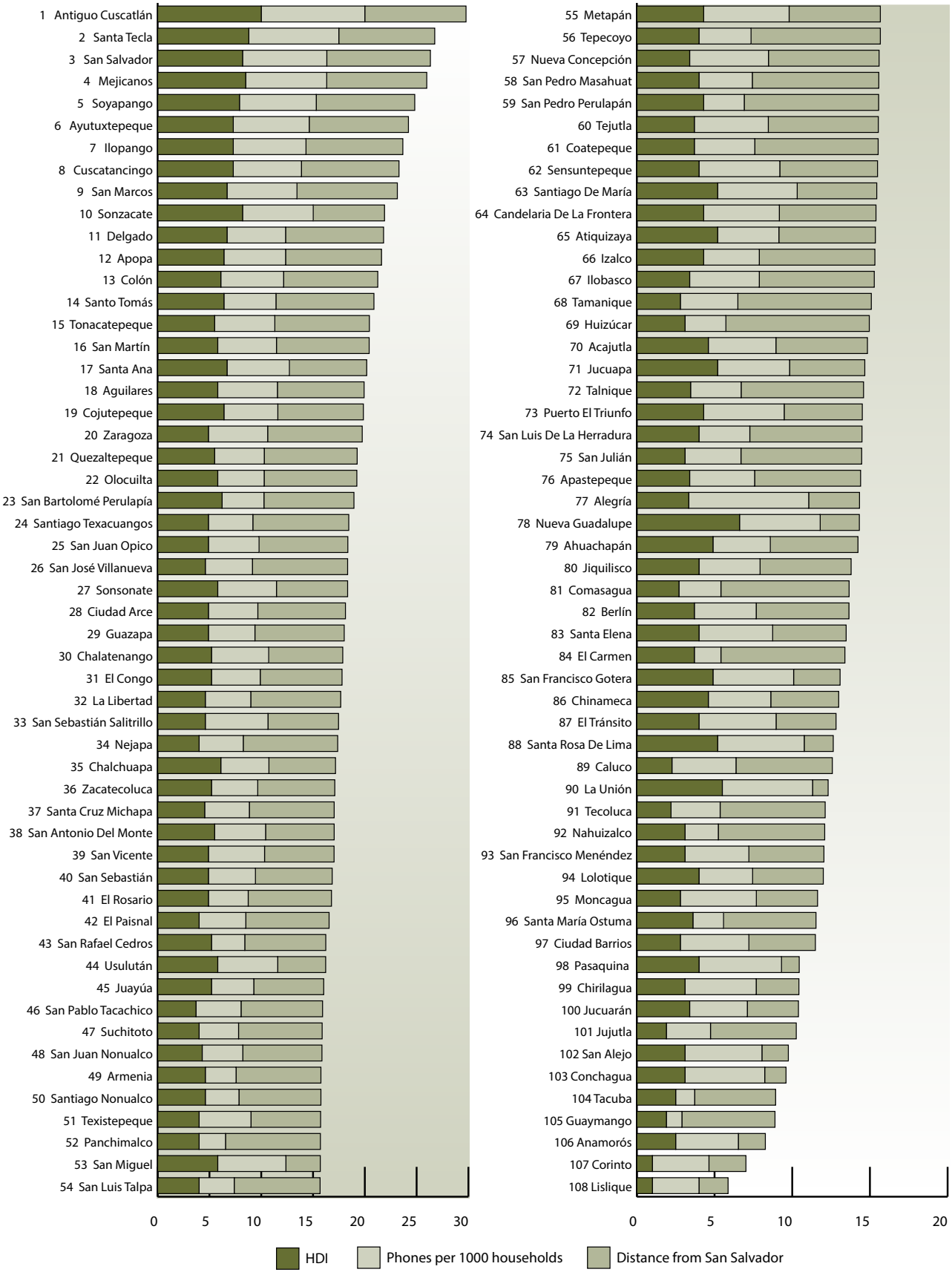


Figure 3: Municipal Resource Endowments



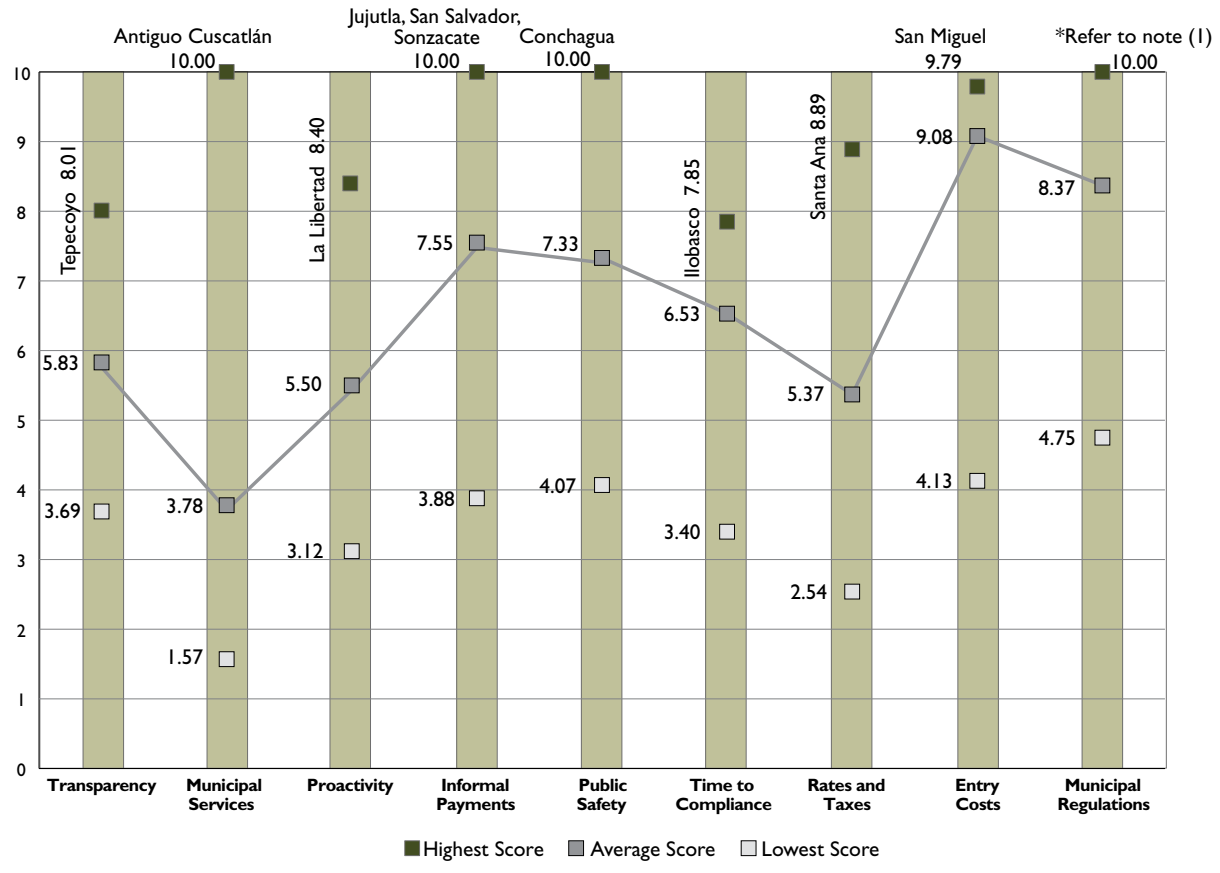
MCI versus Resource Endowments

Figure 3 (on the previous page) shows the resource endowments of each of the 108 municipalities. Three variables, representing resource endowment, were used to create ***Figure 3*** and are controlled for in the MCI calculations. They are as follows:

1. Local development as measured by the HDI[3] (UNDP, 2006);
2. Initial infrastructure endowment as measured by the number of phones per 100 households according to the 2007 Census of Population and Housing (Censos de El Salvador, 2008); and
3. Proximity to markets as measured by the distance in kilometers from the municipality seat to the city of San Salvador.

The resource endowment data confirm that the municipalities located in the San Salvador Metropolitan Area dominate the measures. In particular, Antiguo Cuscatlán ranks the highest because of a higher HDI, followed by Santa Tecla and San Salvador. These three municipalities, together with the rest of municipalities of the San Salvador Metropolitan Area, San Miguel, and Santa Ana account for more than 50% of the total number of businesses in the country. It is obvious that resource endowments are important for investment decisions.

Figure 4: Components of the 2011 MCI 100 Municipalities Included in Both the 2011 and 2009 MCI



(1) Sonsonate, Cuscatancingo, Metapán, Jujutla, Texistepeque, El Paisnal, San Juan Nonualco, Sensuntepeque, Jucuarán, and Chinameca.

[3] The HDI results from policy changes, but changes in the HDI usually occur over long periods of time.

The MCI, however, is measuring a municipality's competitiveness independently of its endowments. The MCI's purpose is to construct an index that focuses on actionable items that local governments can undertake to improve the business environment. Our key question is as follows: How can good economic policy, regulations, and administration spur private sector growth beyond the structural conditions of municipalities? Our findings in 2011 are similar to those from the 2009 study. Comparing ***Figures 1*** and ***3*** shows that a high initial level of resource endowments does not necessarily lead to a higher score in municipal competitiveness, a feature confirmed by a low 0.10 correlation coefficient of the MCI rank and the resource endowments rank. For instance, La Libertad and Texistepeque, which were second and third in the MCI ranking, were in positions 34 and 49, respectively, in the resource endowments ranking.

Figure 4 (on the previous page) illustrates that the sub-indices do not all have the same impact on local competitiveness and that all the municipalities do not perform equally across all sub-indices, as can be seen in the varying top, average, and low scores across each sub-index. The top-ranking municipality is also named at the top of each sub-index. As with the overall MCI scores, the sub-indices are calculated on a 1–10 scale—where 10 represents the best score and 1 is the worst—on the basis of the simple average of the set of indicators that make up each sub-index. As a consequence, a score of 10 does not necessarily indicate a perfect performance by a municipality across all the aspects represented by the indicators used to construct a specific sub-index.[4] The transformed scale assigns a value of 10 to the municipality with the best average value for the set of indicators included in the calculation of a sub-index.[5]

With the exception of the sub-indices of Entry Costs, Municipal Regulations, Informal Payments, and Public Safety, the remaining measures of competitiveness recorded relatively low average values. Similar to 2009, Municipal Services was the sub-index with the poorest performance in 2011, with an average of 3.78.

A number of indicators were used to compute the sub-indices. These are described in ***Table 2.***

Assessing Change Relative to the 2009 MCI

The most interesting and positive finding is that an increase in MCI scores was observed across all 100 municipalities included in both the 2009 and 2011 studies. In addition, it is worth noting that the 2011 rankings look remarkably similar to those from 2009. In 2011, Antiguo Cuscatlán, La Libertad, and Texistepeque maintained their positions among the Excellent municipalities.

The overall increase in MCI scores in all municipalities suggests that despite the economic crisis strongly impacting the country in 2010, local governments were able manage to promote better business climates in 2011. ***Figure 5*** (on page 10) shows the changes in overall MCI rank by municipality from 2009 to 2011.

Interpreting Change Over Time

As discussed earlier, there is evidence of general improvement in economic governance in 2011. However, the significant average positive change in the Weighted MCI was not caused by changes of the same direction and/or magnitude in all the component sub-indices. The data in ***Table 1*** indicated that, on average, significant improvements were observed in the Time to Compliance, Rates and Taxes, Entry Costs, Public Safety, and Municipal Services sub-indices. On the other hand, the average score for the Informal Payments Sub-index recorded a significant decline compared to its 2009 value, while the average scores for the Proactivity and Municipal Services sub-indices remained stable between 2009 and 2011. The data in ***Table 3*** (on page 11) suggest that at the level of individual municipalities, improvements in economic governance may have resulted from positive variations in the scores of sub-indices that remained stable or even declined.

[4] For a discussion of this issue, refer to the 2009 MCI report available from http://www.municipalindexelsalvador.com/gal_documentos/MCI-Report.pdf.

[5] For example, ***Figure 25*** shows Chinameca, Cuscatancingo, El Paisnal, Jucuará, Jujutla, Metapán, San Juan Nonualco, Sensuntepeque, Sonsonate, and Texistepeque with a score of 10 for the Municipal Regulations Sub-index. These municipalities recorded the lowest values for either or both of the two indicators for the sub-index: 0.0% for the percent of businesses that perceived that the number of municipal regulations had increased during 2010, and 0.0% for the percent of businesses that perceived that the number of regulations was above normal compared to neighboring municipalities.

Table 2: Indicators Used in Sub-indices

TRANSPARENCY
% Businesses not affected by municipal support to informal sector
% Businesses think municipality does not favor businesses owned by people belonging to the mayor's party
% Businesses think municipality does not favor large businesses and does not discriminate against small businesses
% Businesses knowing about the existence of processes for filing complaints or making recommendations
% Businesses knowing about the existence of processes for informing citizens about local issues
% Businesses perceiving that municipal policies are applied in a consistent manner
% Businesses perceiving that relationships are important for gaining access to documents and/or obtaining permits/licenses
% Businesses gaining easy access to local documents
% Businesses perceiving that changes to rates/taxes and regulations are predictable
% Businesses perceiving municipal tenders as transparent
MUNICIPAL SERVICES
% Businesses qualifying municipality as good at controlling informal commerce
% Businesses qualifying municipality as good at doing public works during 2007–2008
% Businesses qualifying municipality as good at providing facilities for administrative procedures
% Businesses qualifying municipality as good at providing facilities for tax payments
% Businesses qualifying municipality as good at crime prevention and control
% Businesses qualifying municipality as good at developing labor and entrepreneurship programs
% Businesses qualifying municipality as good at promoting tourism
% Businesses qualifying municipality as good at promoting business opportunities
% Businesses qualifying municipality as good at promoting and supporting local business associations
% Businesses qualifying municipality as good at providing services to attract investors and clients
% Businesses qualifying municipality as good at providing services to facilitate access to credit by local business
% Businesses qualifying municipality as good at export promotion
PROACTIVITY
% Businesses perceiving that municipality works actively to solve business problems
% Businesses perceiving that municipality has good initiatives, but these are blocked by central government
% Businesses perceiving that all private-sector related policies do not come from central government
PUBLIC SAFETY
% Businesses saying that crime was higher in 2008 compared to 2007
% Businesses perceiving that crime has increased due to bad municipality work
% Businesses perceiving that crime has decreased due to good municipality work
Municipal spending in public safety per capita ($)
% Businesses victimized during 2008—robbery or theft
% Businesses perceiving that local crime is higher than in neighboring municipalities
Cost of crime to businesses per US$1,000 sale increase in 2008
% Businesses victimized during 2008—extortion or kidnapping
INFORMAL PAYMENTS
% Businesses feeling informal payments are common occurrence
% Businesses think informal payments do help in gaining access to municipal documents or in obtaining permits/licenses
% Businesses feeling tenders are fair
% Businesses perceiving extra tax payments are common occurrence in the municipality
% Businesses have made extra payments to fix municipal tax problems
TIME TO COMPLIANCE
% Businesses inspected in 2008
Number of inspections per 100 businesses
% Businesses feeling the number of inspections are above normal
% Businesses feeling municipal inspectors act fairly
% Businesses feeling the municipality adequately ensures compliance
RATES AND TAXES
% Businesses feeling that local taxes are higher than in neighboring municipalities
Number of incentives per 100 businesses*
Municipality offers tax advantages*
Tax revenue standardized by municipal services*
ENTRY COSTS
Effective wait for business premises (days)*
Length of other business related permits (days)*
% Businesses waiting over ONE month to obtain permits to start operations
% Businesses waiting over THREE months to obtain permits to start operations
% Businesses having problems with obtaining permits/licenses to start operations
% Businesses finding difficult to obtain information on necessary procedures/documents
Total number of documents required to obtain permit for operations*
Time to issue permits to operate (days) *
MUNICIPAL REGULATIONS
% Businesses feeling the number of municipal regulations has increased during 2008
% Businesses feeling the number of municipal regulations is above normal, compared to neighboring municipalities

* Hard data indicators

Figure 5: Change in Overall MCI Rank From 2009 to 2011

Figure 5: Change in Overall MCI Rank From 2009 to 2011

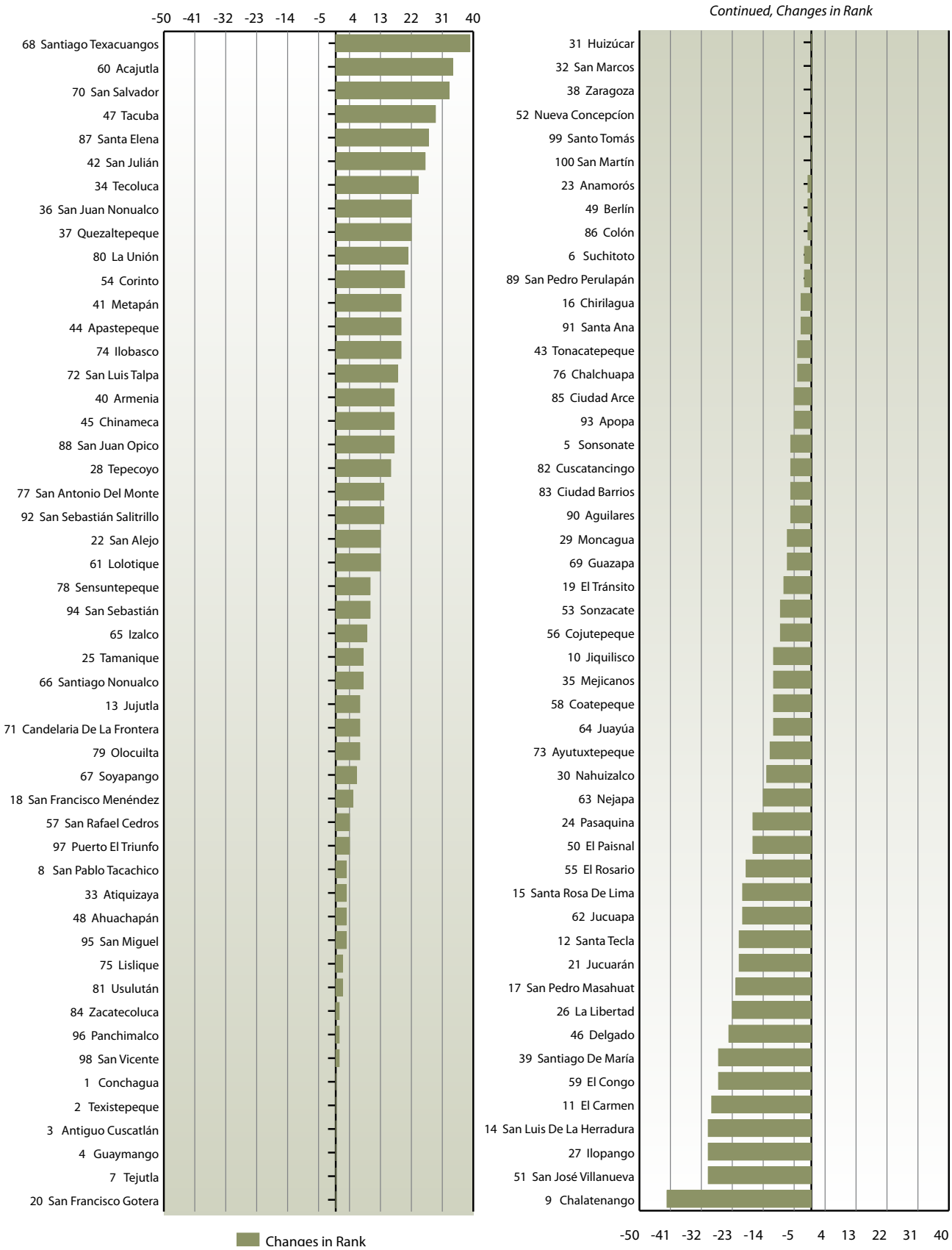


Table 3 also shows the 10 municipalities with the greatest increase in MCI rank from 2009 to 2011. The key drivers of improvement in their ranks were the Municipal Services, Proactivity, Public Safety, Informal Payments, and Transparency sub-indices, in that order. As ***Table 3*** illustrates, the key sub-indices driving improvement vary across the 10 municipalities, a result suggesting the MCI is able to identify areas to improve the business environment at the local level.

This section examines the contribution that changes in the scores of each sub-index made to the observed change in the overall MCI score between 2009 and 2011.

These findings are consistent with extant literature, indicating that the positive impacts on competitiveness derived from improved municipal services, good regulatory frameworks, tax efficiency, and administrative improvements aimed at reducing regulatory and paperwork costs to businesses depend heavily on private sector perceptions of local governments' perfomance in dealing with corruption, transparency and crime, as well as the degree of interest that local governments show in solving business problems (Mauro, 1995; Kaplan et al., 2007; Zegarra et al., 2007; Kaufmann et al., 2010; Kaplan et al., 2010).

Table 3: Ten Municipalities with Greatest Improvements in Weighted MCI Rankings

Municipality	Improvement in Ranking	Improvement in MCI Score	2011 MCI Rank	2011 MCI Score	Sub-indices Most Important for Improvement
Jujutla	21	0.94	11	7.00	Municipal Services/Public Safety
San Julián	18	0.64	27	6.53	Transparency/Proactivity
Metapán	13	0.55	26	6.54	Municipal Services/Informal Payments
Zaragoza	13	0.64	57	6.09	Municipal Services/Public Safety
San Martín	13	0.61	71	5.81	Transparency/Municipal Services/Proactivity
Santa Rosa de Lima	13	0.57	23	6.59	Informal Payments/Public Safety
Armenia	12	0.61	68	5.90	Transparency/Municipal Services
San José Villanueva	12	0.64	67	5.94	Transparency/Proactivity
Ayutuxtepeque	12	0.63	36	6.39	Transparency/Municipal Services
Cojutepeque	12	0.59	31	6.50	Transparency/Proactivity/Public Safety
Median Municipality	1	0.42	0	6.17	Public Safety/Municipal Services

Transparency

Transparency is one of the most crucial factors in identifying environments that promote local investment (Kaufmann et al., 2010). It is closely linked to both corruption and accountability. Transparency allows businesses to plan their strategy and operations by providing access to accurate information on administrative processes, procedures, and decisions affecting businesses. This sub-index assesses how municipalities differ in their openness to provide information to the private sector that is relevant to operating of local businesses and in the predictability of applying or changing those regulations and procedures. The sub-index was constructed from business survey data. It includes measures for access to information and documents relevant to local businesses, knowledge among businesses of processes to file complaints, predictability of municipal policies, and discrimination based on party affiliation or business size. The higher the value of the sub-index, the more transparent a municipality is perceived by the private sector.

The Transparency Sub-index had an average value of 5.82, with Tepecoyo recording the highest value at 8.01. ***Figure 6*** shows the 2011 Transparency Sub-index rankings. In addition to Tepecoyo, the following 12 municipalities were classified as Excellent performing: Antiguo Cuscatlán, Ayutuxteque, Conchagua, Ilopango, Puerto El Triunfo, San Antonio del Monte, San Francisco Gotera, San Julián, San Miguel, San Pedro Masahuat, Santa Tecla, and Texistepeque.

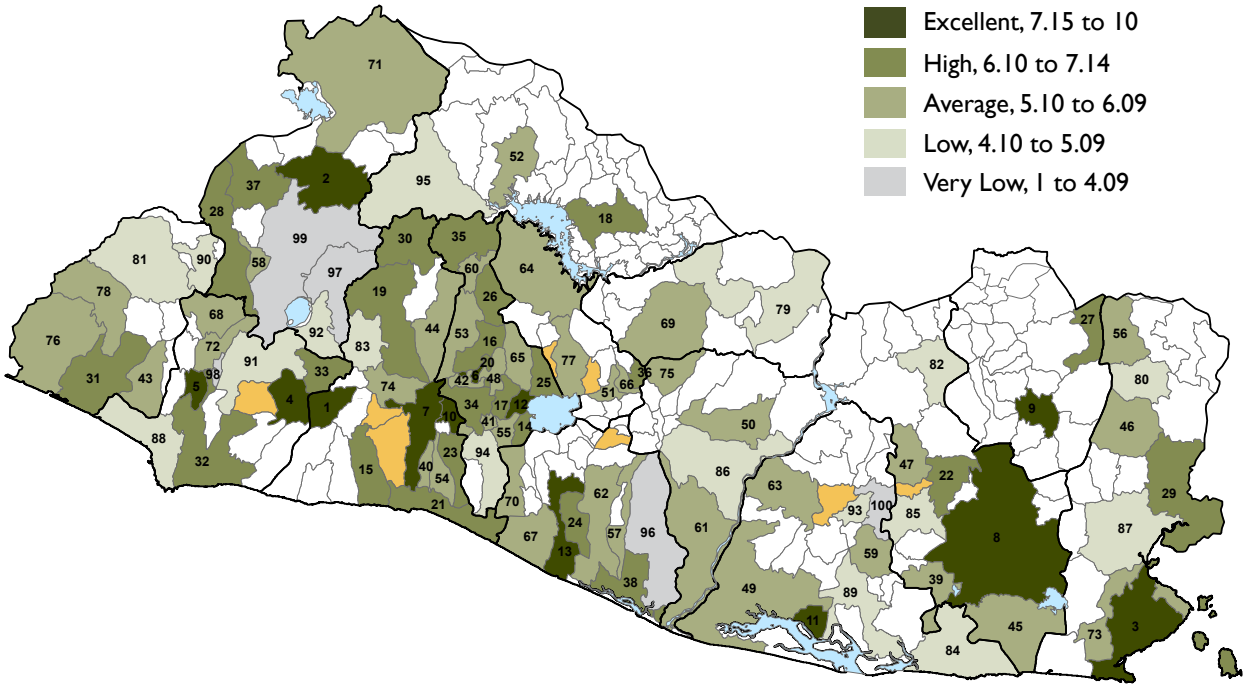
The data in ***Figure 7*** (see page 15), showing the 2011 Transparency Sub-index ranking next to the municipality's name, indicate that 39 municipalities improved their ranking in 2011, and that 55 obtained a lower ranking compared to 2009. Six municipalities maintained the same ranking in 2011 as in 2009.

Table 4 shows the 10 municipalities recording the greatest improvements in the Transparency Sub-index between 2009 and 2011. Four of them (Ayutuxteque, San Julián, San Miguel, and Santa Tecla) also were included in the group of excellent performers.

Table 4: Ten Municipalities with Greatest Improvements in the Transparency Sub-index

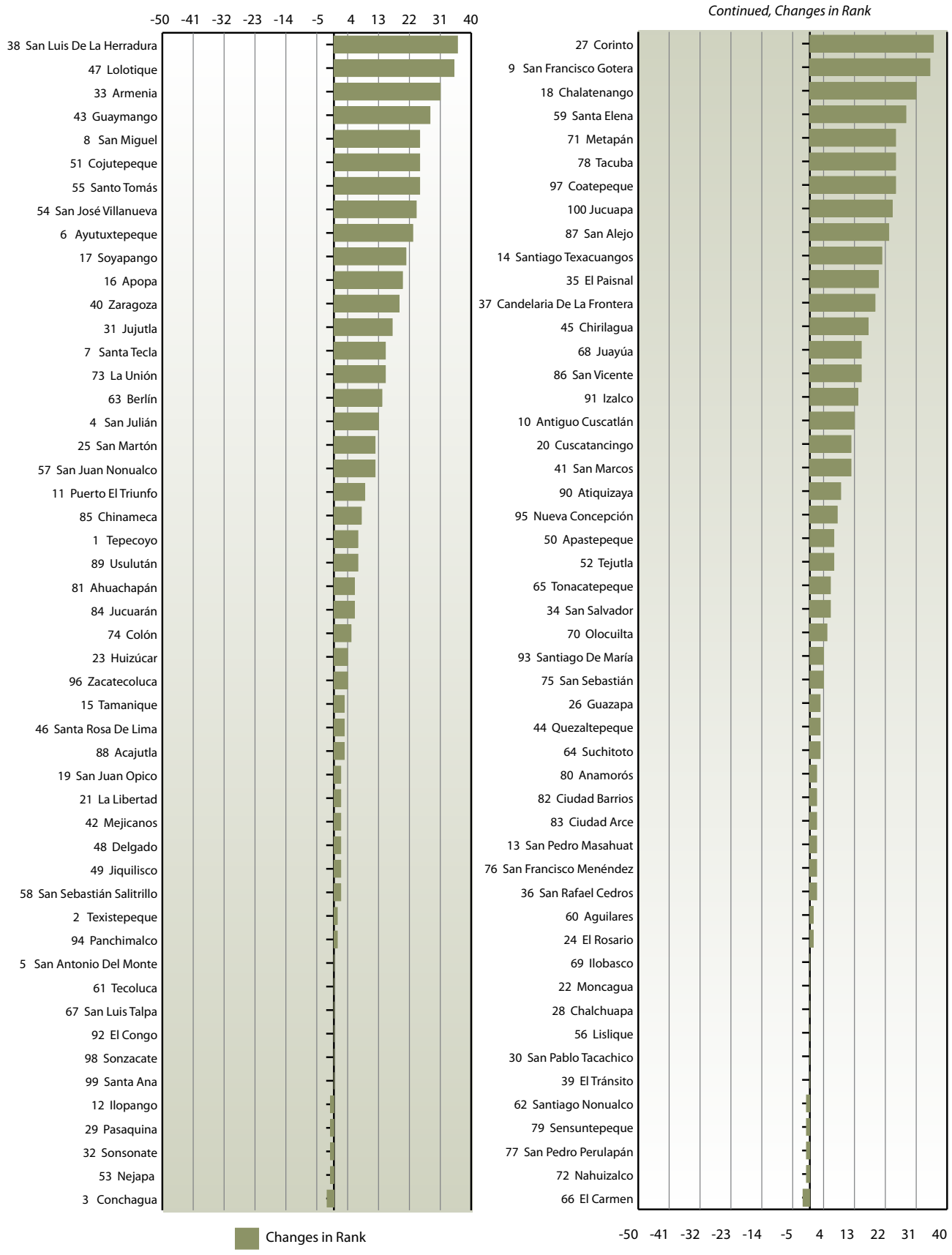
Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Ayutuxtepeque	1.22	23	6	7.49	Ease of access to local documents
San Miguel	1.13	25	8	7.35	Processes in place to inform citizens on local issues
Lolotique	1.12	35	47	5.89	Ease of access to local documents. Predictability of municipal policies
San Luis La Herradura	1.08	36	38	6.11	Businesses not affected by municipal support to informal sector
Santa Tecla	1.05	15	7	7.45	Processes in place to inform citizens on local issues. Predictability of municipal policies
Armenia	1.03	31	33	6.34	Processes in place to inform citizens on local issues. Predictability of municipal policies
Soyapango	1.00	21	17	6.97	Processes in place to inform citizens on local issues. Predictability of municipal policies
San Julián	0.94	13	4	7.53	Processes in place to inform citizens on local issues. Relationships important for gaining access to documents and/or obtaining permits licenses
Tepecoyo	0.90	7	1	8.01	Processes in place to inform citizens on local issues
Apopa	0.88	20	16	7.01	Processes in place to inform citizens on local issues
Median Municipality	1	0.42	0	6.17	Public Safety/Municipal Services

Figure 6: Transparency Sub-index 2011



Rank	Municipality	Score
1	Tepecoyo	8.01
2	Texistepeque	7.84
3	Conchagua	7.82
4	San Julián	7.53
5	San Antonio Del Monte	7.52
6	Ayutuxtepeque	7.49
7	Santa Tecla	7.45
8	San Miguel	7.35
9	San Francisco Gotera	7.34
10	Antiguo Cuscatlán	7.33
11	Puerto El Triunfo	7.27
12	Ilopango	7.24
13	San Pedro Masahuat	7.20
14	Santiago Texacuangos	7.07
15	Tamanique	7.05
16	Apopa	7.01
17	Soyapango	6.97
18	Chalatenango	6.88
19	San Juan Opico	6.81
20	Cuscatancingo	6.80
21	La Libertad	6.77
22	Moncagua	6.75
23	Huizúcar	6.69
24	El Rosario	6.66
25	San Martín	6.65
26	Guazapa	6.64
27	Corinto	6.62
28	Chalchuapa	6.61
29	Pasaquina	6.56
30	San Pablo Tacachico	6.46
31	Jujutla	6.45
32	Sonsonate	6.40
33	Armenia	6.34
34	San Salvador	6.27
35	El Paisnal	6.22
36	San Rafael Cedros	6.15
37	Candelaria De La Frontera	6.12
38	San Luis De La Herradura	6.11
39	El Tránsito	5.99
40	Zaragoza	5.95
41	San Marcos	5.93
42	Mejicanos	5.92
43	Guaymango	5.92
44	Quezaltepeque	5.91
45	Chirilagua	5.91
46	Santa Rosa De Lima	5.90
47	Lolotique	5.89
48	Delgado	5.86
49	Jiquilisco	5.80
50	Apastepeque	5.75
51	Cojutepeque	5.73
52	Tejutla	5.73
53	Nejapa	5.71
54	San José Villanueva	5.63
55	Santo Tomás	5.59
56	Lislique	5.55
57	San Juan Nonualco	5.49
58	San Sebastián Salitrillo	5.46
59	Santa Elena	5.46
60	Aguilares	5.43
61	Tecoluca	5.42
62	Santiago Nonualco	5.41
63	Berlín	5.41
64	Suchitoto	5.40
65	Tonacatepeque	5.37
66	El Carmen	5.37
67	San Luis Talpa	5.35
68	Juayúa	5.34
69	Ilobasco	5.30
70	Olocuilta	5.27
71	Metapán	5.24
72	Nahuizalco	5.23
73	La Unión	5.22
74	Colón	5.21
75	San Sebastián	5.18
76	San Francisco Menéndez	5.13
77	San Pedro Perulapán	5.13
78	Tacuba	5.13
79	Sensuntepeque	5.07
80	Anamorós	5.05
81	Ahuachapán	4.90
82	Ciudad Barrios	4.88
83	Ciudad Arce	4.87
84	Jucuarán	4.80
85	Chinameca	4.80
86	San Vicente	4.66
87	San Alejo	4.63
88	Acajutla	4.52
89	Usulután	4.50
90	Atiquizaya	4.48
91	Izalco	4.42
92	El Congo	4.38
93	Santiago de María	4.33
94	Panchimalco	4.32
95	Nueva Concepción	4.21
96	Zacatecoluca	4.01
97	Coatepeque	3.98
98	Sonzacate	3.90
99	Santa Ana	3.70
100	Jucuapa	3.69

Figure 7: Changes in Transparency Sub-index Rankings from 2009 to 2011



The key indicators driving improvement among the 10 local governments with the greatest increase in the Transparency Sub-index were as follows: predictability and consistency of local policies; relationships important to gain access to documents and/or obtaining permits/licenses; ease of access to local documents; and processes in place to inform citizens on local issues.

Municipal Services

In many studies, public services are shown to exert a positive and significant effect on economic growth (Fisher, 1997). Effective and efficient municipal services support the economic development of municipalities while poor levels of service can slow economic growth and reduce trust in local government. The Municipal Services Sub-Index assesses differences across municipalities in the quality of the services they provide to the private sector. The sub-index was constructed from the business survey on firms' perceptions of the quality of business-oriented services provided by municipalities.

The sub-index has an average value of 3.78, with Antiguo Cuscatlán recording the highest score at 10.00.[6] ***Figure 8*** shows the 2011 Municipal Services rankings. Antiguo Cuscatlán was the only municipality that achieved an Excellent ranking on this sub-index. As in 2009, the municipalities of Suchitoto, Santa Rosa de Lima, La Libertad, and Conchagua (in this order) achieved the High performing ranking in 2011. A total of 80 municipalities were perceived as Low or Very Low performers, based on the quality of services they provide to the private sector.[7] These results reveal that providing high-quality services to the private sector remains an area with significant room for improvement for local governments.

The data in ***Figure 9*** (see page 19), showing the 2011 Municipal Services Sub-index ranking next to the municipality's name, indicate that 57 municipalities improved their ranking in 2011 while 38 obtained a lower ranking, compared to 2009. Five municipalities held the same ranking in 2011 as in 2009.

Table 5 shows the 10 municipalities that recorded the greatest improvements in the Municipal Services Sub-index between 2009 and 2011.

The key indicators driving improvement among the 10 local governments with the greatest increase in the Municipal Services Sub-index were promoting tourism, providing facilities for tax payments, conducting public works, and controlling informal commerce.

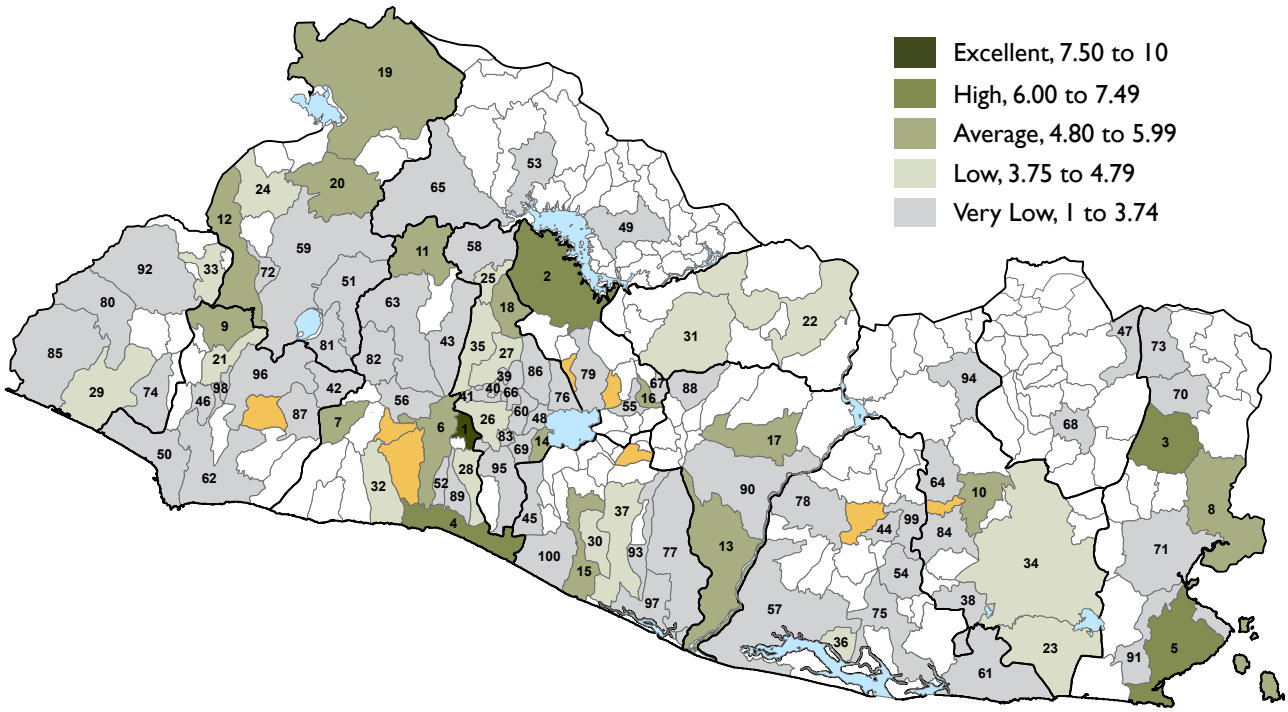
Table 5: Ten Municipalities with Greatest Improvements in the Municipal Services Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Metapán	1.38	11	19	4.91	Facilities for tax payments
Suchitoto	1.32	2	2	7.34	Facilities for tax payments
Sensuntepeque	1.31	11	22	4.77	Tourism promotion
Huizúcar	1.22	16	28	4.37	Tourism promotion
Ilobasco	1.07	16	31	4.14	Tourism promotion
Guazapa	1.06	7	18	4.96	Public works
Candelaria de la Frontera	1.06	5	24	4.60	Promotion and support of local business associations
Nahuizalco	1.03	6	21	4.80	Control of informal commerce
Santa Tecla	1.02	3	6	5.97	Promotion and support of local business associations
Corinto	1.02	22	47	3.59	Facilities for tax payments
Median Municipality	1	0.42	0	6.17	Public Safety/Municipal Services

[6] The ***Technical Appendix*** shows the cut-off values for the MCI and the sub-indices.

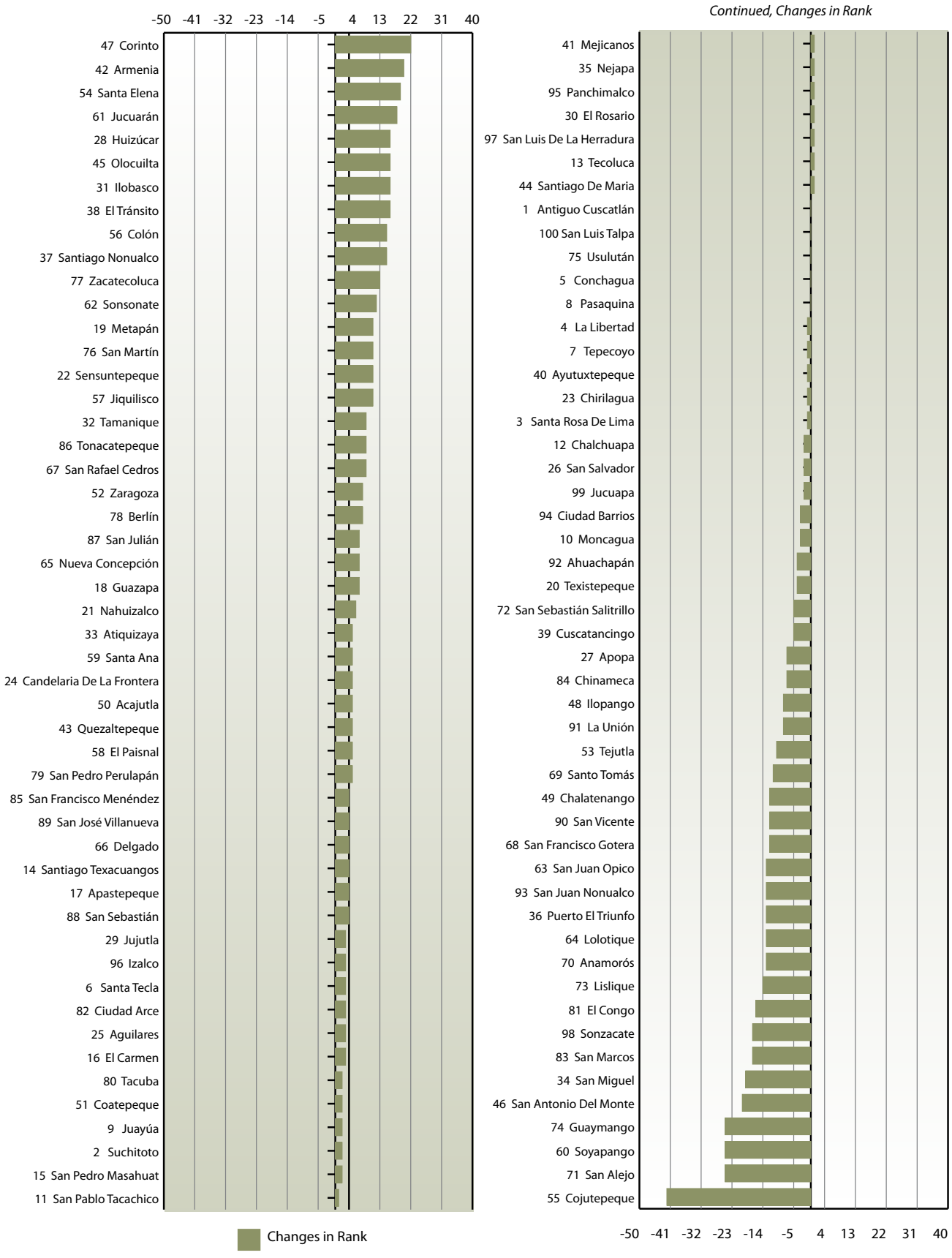
[7] Eighty-four municipalities were classified as Low and Very Low performing in 2009.

Figure 8: Municipal Services Sub-index 2011



Rank	Municipality	Score
1	Antiguo Cuscatlán	10.00
2	Suchitoto	7.34
3	Santa Rosa De Lima	6.97
4	La Libertad	6.83
5	Conchagua	6.66
6	Santa Tecla	5.97
7	Tepecoyo	5.89
8	Pasaquina	5.76
9	Juayúa	5.73
10	Moncagua	5.62
11	San Pablo Tacachico	5.52
12	Chalchuapa	5.14
13	Tecoluca	5.11
14	Santiago Texacuangos	5.10
15	San Pedro Masahuat	5.08
16	El Carmen	5.07
17	Apastepeque	4.96
18	Guazapa	4.96
19	Metapán	4.91
20	Texistepeque	4.82
21	Nahuizalco	4.79
22	Sensuntepeque	4.77
23	Chirilagua	4.74
24	Candelaria De La Frontera	4.60
25	Aguilares	4.50
26	San Salvador	4.46
27	Apopa	4.39
28	Huizúcar	4.37
29	Jujutla	4.31
30	El Rosario	4.19
31	Ilobasco	4.14
32	Tamanique	4.11
33	Atiquizaya	4.07
34	San Miguel	4.04
35	Nejapa	3.76
36	Puerto El Triunfo	3.76
37	Santiago Nonualco	3.75
38	El Tránsito	3.70
39	Cuscatancingo	3.69
40	Ayutuxtepeque	3.67
41	Mejicanos	3.65
42	Armenia	3.65
43	Quezaltepeque	3.64
44	Santiago de María	3.63
45	Olocuilta	3.63
46	San Antonio Del Monte	3.60
47	Corinto	3.59
48	Ilopango	3.56
49	Chalatenango	3.56
50	Acajutla	3.54
51	Coatepeque	3.53
52	Zaragoza	3.52
53	Tejutla	3.52
54	Santa Elena	3.45
55	Cojutepeque	3.42
56	Colón	3.41
57	Jiquilisco	3.41
58	El Paisnal	3.41
59	Santa Ana	3.35
60	Soyapango	3.32
61	Jucuarán	3.22
62	Sonsonate	3.21
63	San Juan Opico	3.19
64	Lolotique	3.18
65	Nueva Concepción	3.16
66	Delgado	3.15
67	San Rafael Cedros	3.12
68	San Francisco Gotera	3.11
69	Santo Tomás	3.10
70	Anamorós	3.10
71	San Alejo	3.07
72	San Sebastián Salitrillo	3.03
73	Lislique	2.97
74	Guaymango	2.94
75	Usulután	2.89
76	San Martín	2.79
77	Zacatecoluca	2.77
78	Berlín	2.75
79	San Pedro Perulapán	2.74
80	Tacuba	2.73
81	El Congo	2.69
82	Ciudad Arce	2.58
83	San Marcos	2.54
84	Chinameca	2.51
85	San Francisco Menéndez	2.50
86	Tonacatepeque	2.49
87	San Julián	2.49
88	San Sebastián	2.44
89	San José Villanueva	2.37
90	San Vicente	2.36
91	La Unión	2.35
92	Ahuachapán	2.31
93	San Juan Nonualco	2.21
94	Ciudad Barrios	2.14
95	Panchimalco	2.12
96	Izalco	1.87
97	San Luis De La Herradura	1.80
98	Sonzacate	1.80
99	Jucuapa	1.78
100	San Luis Talpa	1.57

Figure 9: Changes in Municipal Services Sub-index Rankings From 2009 to 2011



Proactivity

Proactivity is defined as the extent to which the mayor and the municipal council are actively involved in promoting initiatives to attract investment and improve conditions associated with operating local businesses. These are activities that often fall outside the municipal's code's requirements but that are undertaken by the local government to spur economic development. The Proactivity Sub-Index was constructed from the business survey data on the perceptions of the number and quality of business-oriented initiatives developed and implemented by the municipality, rather than by the central government. A higher value of the sub-index means that businesses perceive the municipality as having a high level of proactivity.

The sub-index had an average value of 5.50, with La Libertad recording the highest score at 8.40. ***Figure 10*** shows the 2011 Proactivity Sub-index rankings. Apopa, Chalatenango, La Libertad, Masahuat, and San Pedro municipalities achieved an Excellent performance ranking on this sub-index. The municipalities of La Libertad and San Pedro Masahuat achieved a High performance ranking in 2009. A total of 45 municipalities were perceived as Low or Very Low performing, based on this sub-index in 2011 and compared to 40 municipalities in 2009. These results reveal that working proactively to address specific local private sector problems remained as an area with significant room for improvement for local governments.

The data in ***Figure 11*** (see page 21) show the 2011 Proactivity Sub-index ranking next to the municipality's name. A total of 54 municipalities improved their ranking in 2011 while 42 obtained a lower ranking than in 2009. Four municipalities kept the same ranking in 2011 as in 2009.

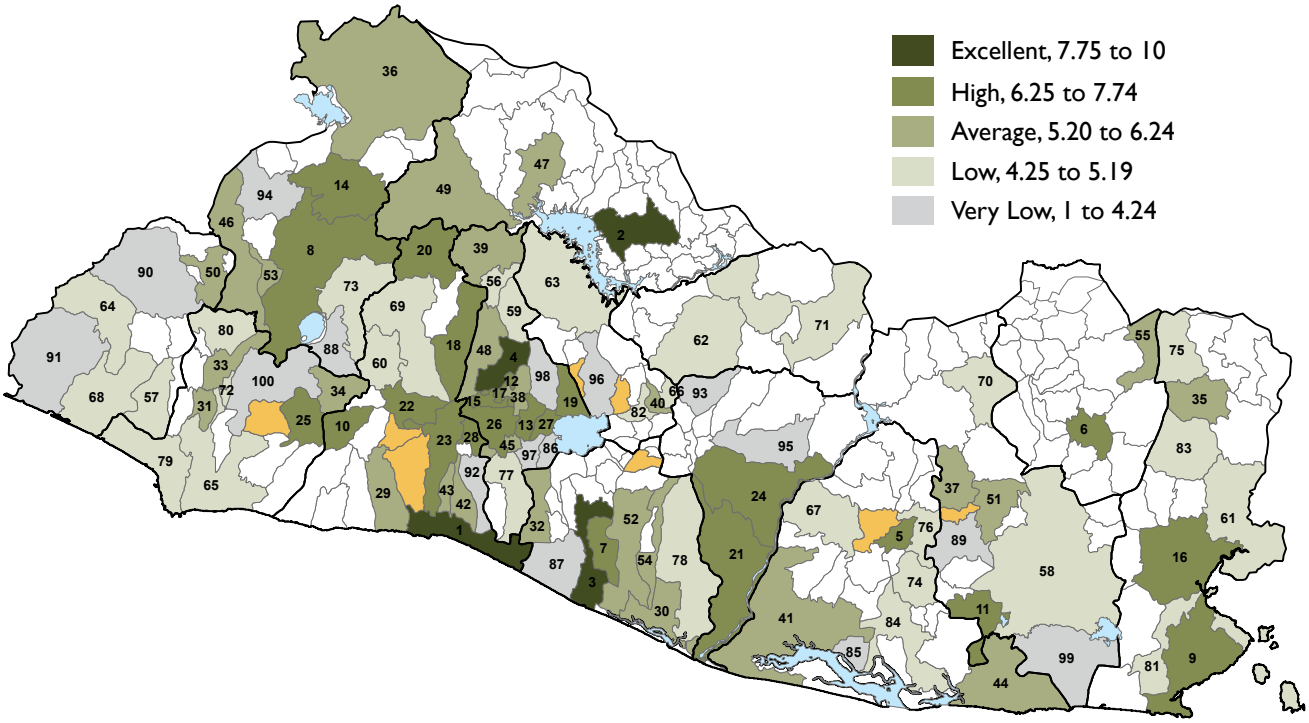
Table 6 shows the 10 municipalities showing the greatest improvement in the Proactivity Sub-index between 2009 and 2011.

In Chalatenango and San Julián, the municipalities' autonomy from the central government in developing and implementing business-oriented policies was the

Table 6: Ten Municipalities with Greatest Improvements in the Proactivity Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Chalatenango	1.24	5	2	8.29	All private sector related policies do not come from central government
El Rosario	1.02	11	7	7.59	Municipality has good initiatives but these are blocked by central government
Santa Ana	0.98	13	8	7.42	Municipality has good initiatives but these are blocked by central government
San Francisco Gotera	0.91	8	6	7.62	Municipality work actively to solve business problems
San Luis de la Herradura	0.83	29	30	6.14	Municipality work actively to solve business problems
Tecoluca	0.83	16	21	6.64	Municipality work actively to solve business problems
Santiago de María	0.80	5	5	7.66	Municipality work actively to solve business problems
San Julián	0.80	20	25	6.43	All private sector related policies do not come from central government
San Vicente	0.77	19	24	6.47	Municipality work actively to solve business problems
Colón	0.75	17	22	6.55	Municipality has good initiatives but these are blocked by central government
Median Municipality	1	0.42	0	6.17	Public Safety/Municipal Services

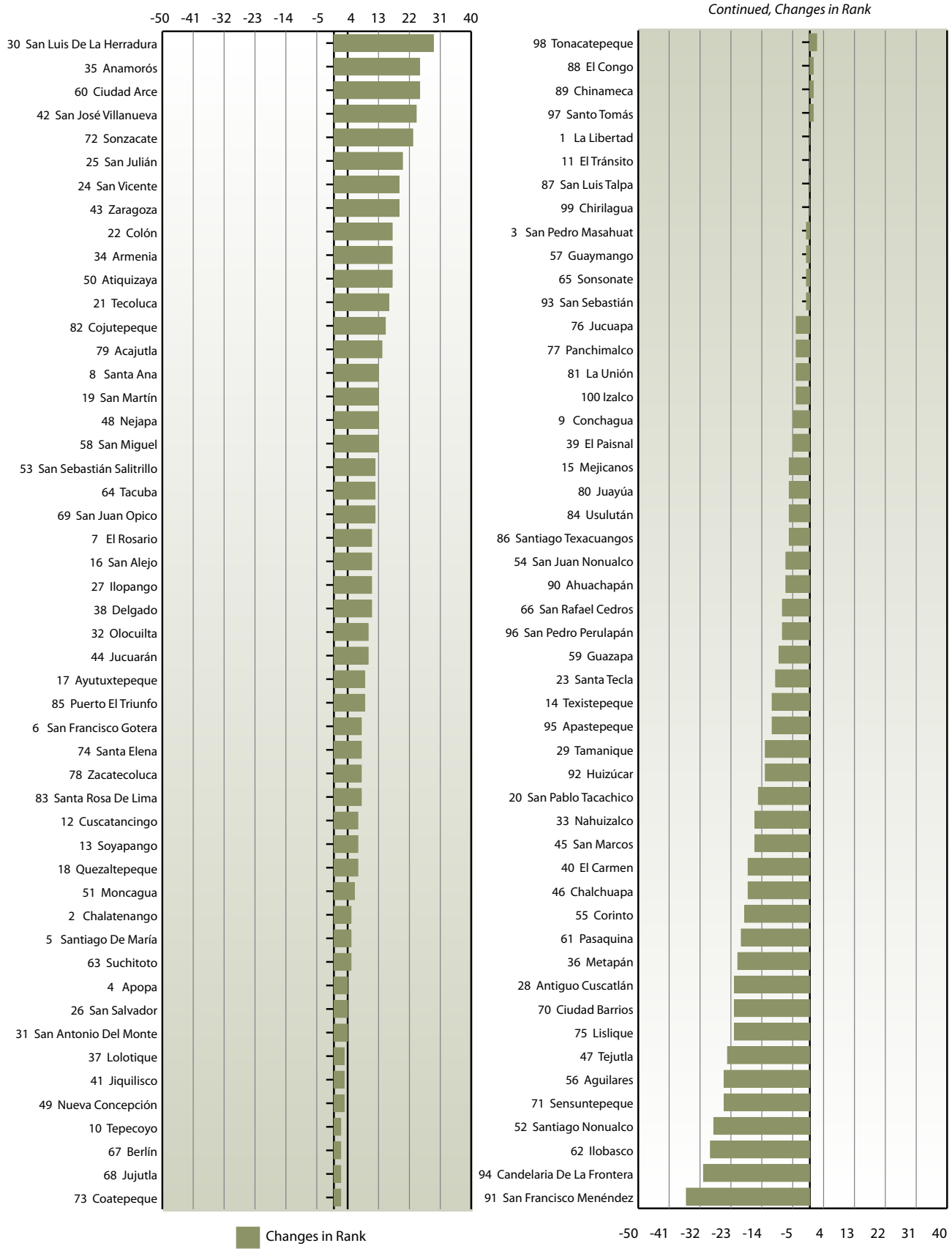
Figure 10: Proactivity Sub-index 2011



Rank	Municipality	Score
1	La Libertad	8.40
2	Chalatenango	8.29
3	San Pedro Masahuat	8.02
4	Apopa	7.75
5	Santiago de María	7.66
6	San Francisco Gotera	7.62
7	El Rosario	7.59
8	Santa Ana	7.42
9	Conchagua	7.42
10	Tepecoyo	7.25
11	El Tránsito	7.12
12	Cuscatancingo	7.08
13	Soyapango	7.08
14	Texistepeque	7.07
15	Mejicanos	6.99
16	San Alejo	6.89
17	Ayutuxtepeque	6.74
18	Quezaltepeque	6.73
19	San Martín	6.70
20	San Pablo Tacachico	6.64
21	Tecoluca	6.64
22	Colón	6.55
23	Santa Tecla	6.48
24	San Vicente	6.47
25	San Julián	6.43
26	San Salvador	6.41
27	Ilopango	6.35
28	Antiguo Cuscatlán	6.27
29	Tamanique	6.21
30	San Luis De La Herradura	6.14
31	San Antonio Del Monte	6.08
32	Olocuilta	5.92
33	Nahuizalco	5.87
34	Armenia	5.82
35	Anamorós	5.81
36	Metapán	5.79
37	Lolotique	5.76
38	Delgado	5.74
39	El Paisnal	5.72
40	El Carmen	5.71
41	Jiquilisco	5.70
42	San José Villanueva	5.68
43	Zaragoza	5.66
44	Jucuarán	5.63
45	San Marcos	5.61
46	Chalchuapa	5.57
47	Tejutla	5.57
48	Nejapa	5.55
49	Nueva Concepción	5.52
50	Atiquizaya	5.50
51	Moncagua	5.45
52	Santiago Nonualco	5.41
53	San Sebastián Salitrillo	5.41
54	San Juan Nonualco	5.35
55	Corinto*	5.20
56	Aguilares	5.19
57	Guaymango	5.17
58	San Miguel	5.16
59	Guazapa	5.11
60	Ciudad Arce	5.07
61	Pasaquina	5.06
62	Ilobasco	5.04
63	Suchitoto	4.97
64	Tacuba	4.96
65	Sonsonate	4.94
66	San Rafael Cedros	4.91
67	Berlín	4.82
68	Jujutla	4.82
69	San Juan Opico	4.82
70	Ciudad Barrios	4.76
71	Sensuntepeque	4.72
72	Sonzacate	4.67
73	Coatepeque	4.64
74	Santa Elena	4.48
75	Lislique	4.47
76	Jucuapa	4.44
77	Panchimalco	4.44
78	Zacatecoluca	4.43
79	Acajutla	4.42
80	Juayúa	4.42
81	La Unión	4.41
82	Cojutepeque	4.35
83	Santa Rosa De Lima	4.33
84	Usulután	4.29
85	Puerto El Triunfo	4.24
86	Santiago Texacuangos	4.21
87	San Luis Talpa	4.16
88	El Congo	4.11
89	Chinameca	4.10
90	Ahuachapán	4.07
91	San Francisco Menéndez	3.90
92	Huizúcar	3.88
93	San Sebastián	3.66
94	Candelaria De La Frontera	3.66
95	Apastepeque	3.59
96	San Pedro Perulapán	3.41
97	Santo Tomás	3.23
98	Tonacatepeque	3.15
99	Chirilagua	3.13
100	Izalco	3.12

*Corinto's performance group designation was corrected to Average to accurately reflect its score.

Figure 11: Changes in Proactivity Sub-index Rankings from 2009 to 2011



main driver for improvement in the Proactivity Sub-index. Local businesses perceived that their municipality had good initiatives, but that the initiatives were not supported by the central government. This was the major driver for the observed improvement in proactivity for Colón, El Rosario, and Santa Ana. In the remaining five municipalities, the improvement in proactivity was driven by the perception that the local government worked actively to solve business problems.

Informal Payments

The Informal Payments Sub-index aims to assess how municipalities differ in terms of businesses' perceptions of their need to make informal payments to obtain permits, licenses, or other information relevant to local tenders or local economic development. The term *informal payments* refers to the payments businesses make to local governments or municipal employees to facilitate obtaining permits and licenses to operate, resolving tax problems, or gaining local tenders and access to relevant local documents. As such, they constitute manifestations of corruption in municipalities. Corruption-related practices significantly impact potential for economic growth.

The Informal Payments Sub-index was constructed from the business survey to measure the prevalence, incidence, and associated costs of informal payments when businesses applied for permits and licenses within a municipality. A higher value of the sub-index means that the business sector perceives a municipality as having a lower prevalence and incidence of problems related to informal payments.

Figure 12 shows the 2011 Informal Payments rankings. The sub-index had an average value of 7.55, with San Salvador, Sonzacate, and Tejutla as the municipalities that recorded the highest score at 10.00. Twenty-seven municipalities achieved the Excellent performance ranking on this sub-index, which is five fewer than in 2009. Twenty-one municipalities were classified as Excellent in 2011, a number smaller by 11 than in the 2009 study. Twenty-seven and twenty-six municipalities achieved the High and Average performance ratings, respectively. The remaining 20 municipalities were classified as either Low or Very Low performing on the Informal-Payments Sub-index.

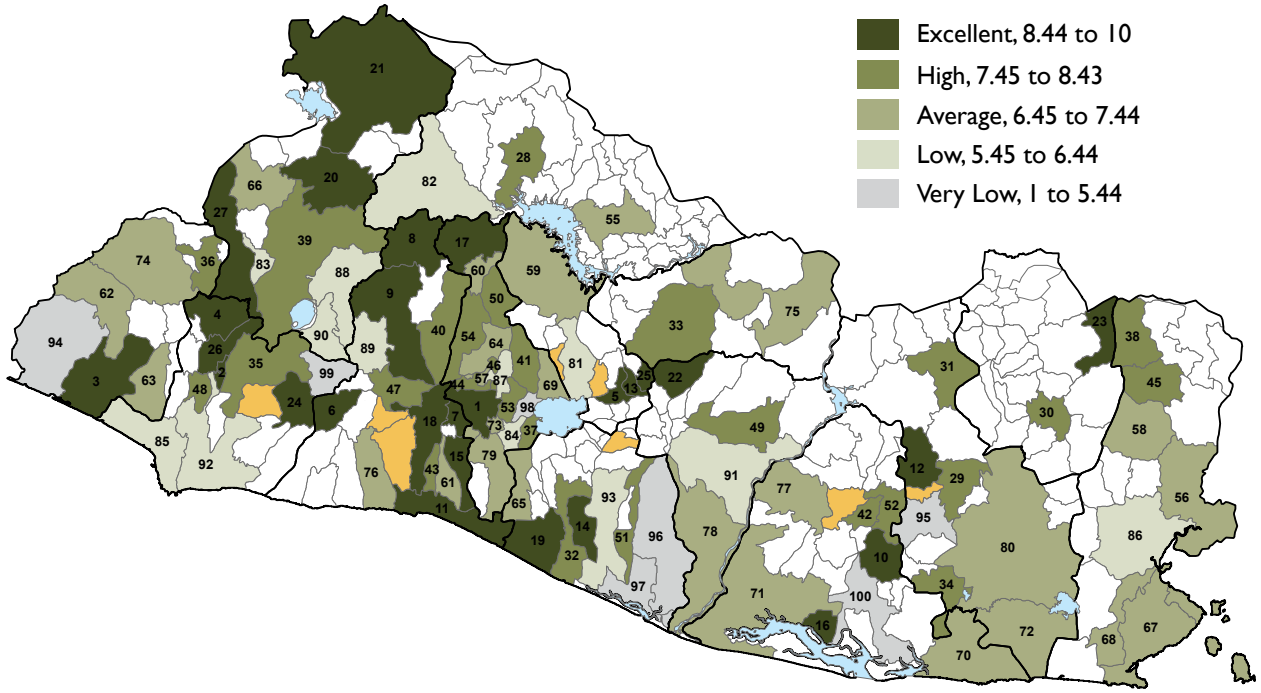
The data in ***Figure 13*** (see page 24) show that 43 municipalities improved their Informal Payments Sub-index ranking in 2011 compared to 2009 and that 49 declined in their rankings. Santa Rosa de Lima Municipality experienced the greatest improvement in ranking—36 positions.

Table 7 (see page 25) shows the 10 municipalities that recorded the greatest improvements in the Informal Payments Sub-index between 2009 and 2011. Coincidentally, the municipalities included in ***Table 7*** were the only ones that recorded an improvement in the value of the Informal Payments Sub-index. In the remaining 90 local governments, the sub-index scores decreased in 2011 relative to 2009.

A decline in the percentage of businesses' perceptions that extra payments will resolve municipal tax problems was a common occurrence. This indicator was the main driver in the improvement of the Informal Payments Sub-index in the municipalities of Jujutla, Metapán, Santa Tecla, and Tacuba. In Huizúcar, Juayúa, and Sonzacate municipalities, improvements in the sub-index were driven by reductions in the percentages of businesses perceiving that informal payments were a common occurrence.

A reduction in the number of establishments that made extra payments to fix tax problems was the indicator underlying the improvement in the Informal Payments Sub-index for the municipalities of San Salvador and Zaragoza. Finally, in Santa Rosa de Lima the sub-index's improved score resulted from a reduction in the percentage of businesses perceiving that informal payments help in obtaining permits and licenses and/or gaining access to local documents.

Figure 12: Informal Payments Sub-index 2011



Rank	Municipality	Score
1	San Salvador	10.00
2	Sonzacate	10.00
3	Jujutla	10.00
4	Juayúa	9.97
5	Cojutepeque	9.39
6	Tepecoyo	9.39
7	Antiguo Cuscatlán	9.20
8	San Pablo Tacachico	9.18
9	San Juan Opico	9.16
10	Santa Elena	9.09
11	La Libertad	9.07
12	Lolotique	9.06
13	El Carmen	9.02
14	El Rosario	8.97
15	Huizúcar	8.92
16	Puerto El Triunfo	8.91
17	El Paisnal	8.88
18	Santa Tecla	8.86
19	San Luis Talpa	8.86
20	Texistepeque	8.83
21	Metapán	8.82
22	San Sebastián	8.79
23	Corinto	8.75
24	San Julián	8.73
25	San Rafael Cedros	8.70
26	Nahuizalco	8.63
27	Chalchuapa	8.48
28	Tejutla	8.43
29	Moncagua	8.42
30	San Francisco Gotera	8.39
31	Ciudad Barrios	8.37
32	San Pedro Masahuat	8.36
33	Ilobasco	8.33
34	El Tránsito	8.26
35	Izalco	8.21
36	Atiquizaya	8.19
37	Santiago Texacuangos	8.19
38	Lislique	8.18
39	Santa Ana	8.15
40	Quezaltepeque	8.12
41	Tonacatepeque	8.02
42	Santiago de María	7.97
43	Zaragoza	7.94
44	Mejicanos	7.89
45	Anamorós	7.82
46	Cuscatancingo	7.74
47	Colón	7.72
48	San Antonio Del Monte	7.70
49	Apastepeque	7.66
50	Guazapa	7.57
51	San Juan Nonualco	7.56
52	Jucuapa	7.54
53	Soyapango	7.50
54	Nejapa	7.46
55	Chalatenango	7.44
56	Pasaquina	7.42
57	Ayutuxtepeque	7.41
58	Santa Rosa De Lima	7.36
59	Suchitoto	7.31
60	Aguilares	7.13
61	San José Villanueva	7.13
62	Tacuba	7.05
63	Guaymango	7.04
64	Apopa	7.03
65	Olocuilta	7.02
66	Candelaria De La Frontera	7.01
67	Conchagua	6.97
68	La Unión	6.93
69	San Martín	6.86
70	Jucuarán	6.85
71	Jiquilisco	6.84
72	Chirilagua	6.82
73	San Marcos	6.61
74	Ahuachapán	6.61
75	Sensuntepeque	6.61
76	Tamanique	6.60
77	Berlín	6.57
78	Tecoluca	6.56
79	Panchimalco	6.52
80	San Miguel	6.48
81	San Pedro Perulapán	6.40
82	Nueva Concepción	6.37
83	San Sebastián Salitrillo	6.29
84	Santo Tomás	6.24
85	Acajutla	6.13
86	San Alejo	6.09
87	Delgado	6.07
88	Coatepeque	6.05
89	Ciudad Arce	6.05
90	El Congo	5.96
91	San Vicente	5.72
92	Sonsonate	5.54
93	Santiago Nonualco	5.50
94	San Francisco Menéndez	5.43
95	Chinameca	5.20
96	Zacatecoluca	5.18
97	San Luis De La Herradura	4.99
98	Ilopango	4.94
99	Armenia	4.77
100	Usulután	3.88

Figure 13: Changes in Informal Payments Sub-index Rankings from 2009 to 2011

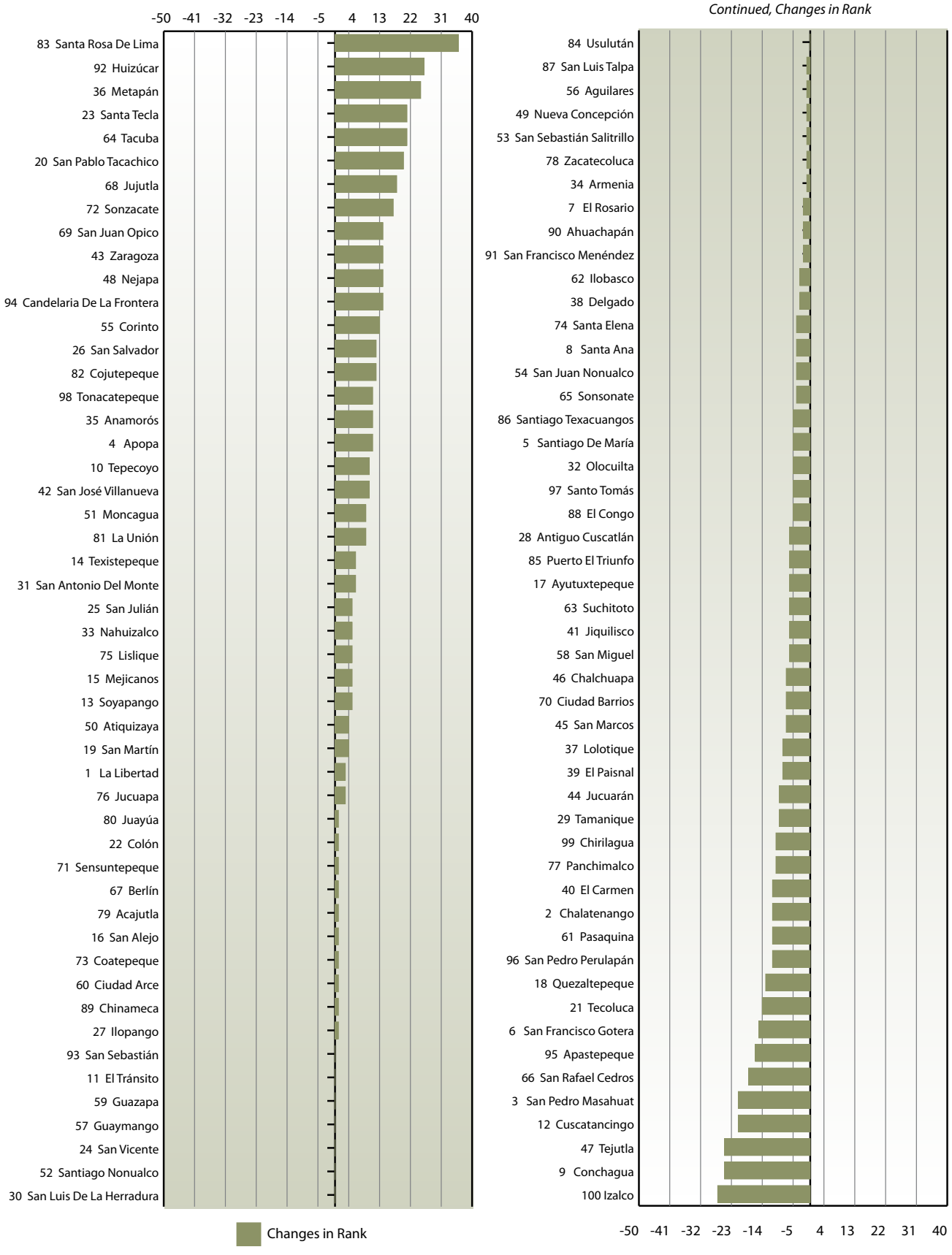


Table 7: Ten Municipalities with Greatest Improvements in the Informal Payments Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Santa Rosa de Lima	1.17	36	58	7.36	Perception that informal payments help in obtaining licenses and/or permits and access to local documents
Jujutla	0.69	18	3	10.00	Perception that extra payments to fix municipal tax problems are a common occurrence
Sonzacate	0.60	17	2	10.00	Perception that informal payments are a common occurrence
Metapán	0.56	25	21	8.82	Perception that extra payments to fix municipal tax problems are a common occurrence
San Salvador	0.49	12	1	10.00	Making extra payments to fix municipal tax problems
Huizúcar	0.37	26	15	8.92	Perception that informal payments are a common occurrence
Santa Tecla	0.30	21	18	8.86	Perception that extra payments to fix municipal tax problems are a common occurrence
Tacuba	0.22	21	62	7.05	Perception that extra payments to fix municipal tax problems are a common occurrence
Juayúa	0.13	1	4	9.97	Perception that informal are a common occurrence
Zaragoza	0.06	14	43	7.94	Making extra payments to fix municipal tax problems
Median Municipality	1	0.42	0	6.17	Public Safety/Municipal Services

The Informal Payments Sub-index experienced a statistically significant decline in its average value in 2011 relative to 2009 (refer to ***Table 1***), indicating that the decline is not due to random chance or idiosyncrasies in the selected firms. Repeated surveys would yield the same decline. As a result, it is important to examine the indicators that were most associated with the decline in the 10 municipalities that had the greatest decrease in their score for this sub-index. ***Table 8*** shows such municipalities.

An increase in the percentage of businesses perceiving that extra payments to resolve municipal tax problems were a common occurrence was the main driver in the decline of the Informal Payments Sub-index in the municipalities of Quezaltepeque, San Pedro Masahuat, and Tejutla. In the municipalities of Cuscatancingo, San Francisco Gotera, and Tecoluca, the decrease in the sub-index was driven by an increase in the percentage of businesses perceiving that informal payments help businesses obtain permits and licenses and/or gain access to local documents. The increase in the number of businesses making extra payments to fix tax problems was the indicator underlying the decline in the Informal Payments Sub-index for the municipality of Izalco. Finally, in Apastepeque, Conchagua, and San Rafael Cedros, the decline was due to an increase in the percentage of businesses perceiving local tenders lacking transparency.

Public Safety

An assessment conducted by a joint United States-El Salvador economic team under the Partnership for Growth Initiative identified crime and insecurity together with low productivity in tradeables as the two major constraints to higher economic growth (U.S. Department of State, 2011). Crime and violence impose enormous costs on the Salvadoran economy and scare away investment. The violence costs the country an equivalent of 11% of GDP (Acevedo, 2008). In 2010, El Salvador's investment flows experienced a contraction of 79% in 2010 (Economic Commission for Latin America [ECLAC], 2011). Zegarra, Rodriguez, and Acevedo

Table 8: Ten Municipalities with Smallest Improvements in the Informal Payments Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Tecoluca	-1.06	-14	78	6.56	Perception that informal payments help in obtaining licenses and/or permits and access to local documents
San Francisco Gotera	-1.09	-15	30	8.39	Perception that informal payments help in obtaining licenses and/or permits, and access to local documents
San Rafael Cedros	-1.13	-18	25	8.70	Perception that local tenders are not transparent
Quezaltepeque	-1.13	-13	40	8.12	Perception that extra payments to fix municipal tax problems are a common occurrence
San Pedro Masahuat	-1.29	-21	32	8.36	Perception that extra payments to fix municipal tax problems are a common occurrence
Apastepeque	-1.31	-16	49	7.66	Perception that local tenders are not transparent
Conchagua	-1.49	-25	67	6.97	Perception that local tenders are not transparent
Cuscatancingo	-1.56	-21	46	7.74	Perception that informal payments help in obtaining licenses and/or permits, and access to local documents
Tejutla	-1.57	-25	28	8.43	Perception that extra payments to fix municipal tax problems are a common occurrence
Izalco	-1.61	-27	35	8.21	Making extra payments to fix municipal tax problems

(2007) reported that 49% of Salvadoran firms identify crime as a major obstacle for their operation and growth.

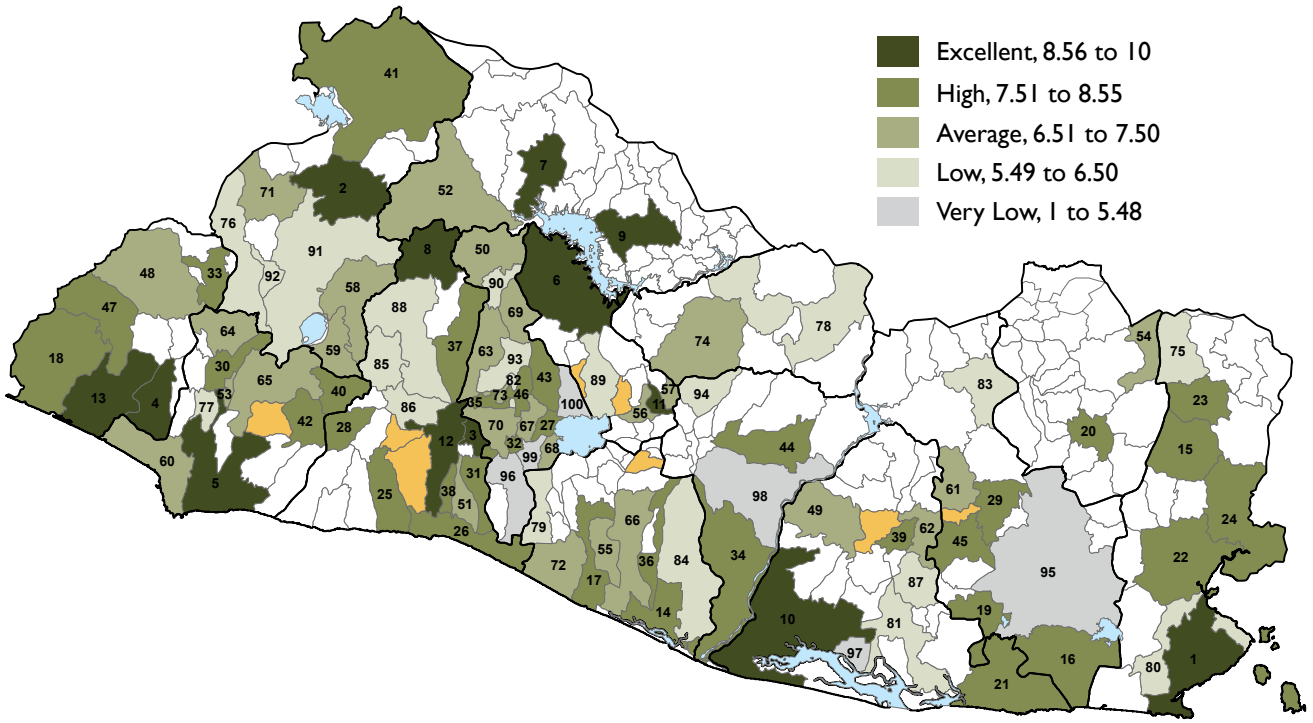
During the last two years, a number of municipalities developed and implemented initiatives aimed at preventing crime and violence in their territories. A number of local governments created committees and developed programs to deal with crime issues. They also strengthened cooperation from the National Civilian Police and other central government agencies, as well as nongovernmental organizations (NGOs). Increasing the levels of public safety as a way to attract and retain investment has become an important issue in local government agendas.

The Public Safety Sub-index assesses differences across municipalities in local businesses' experiences with crime and their perceptions of the level of crime in their municipality. It also captures municipal spending in crime prevention initiatives, as well as the cost that crime represented to local businesses relative to sales in 2010. A higher value of the sub-index means that a municipality is seen as having a lower level of crime and/or that crime impacts the operation of local businesses at a lesser extent. ***Figure 14*** shows the 2011 Public Safety Sub-index rankings.

The sub-index reported an average value of 7.33, with the municipalities of Antiguo Cuscatlán, Conchagua, Guaymango, Sonsonate, Suchitoto, and Texistepeque recording scores equal or higher than 9.00. Thirteen municipalities achieved an Excellent performance ranking, nine more than in 2009. Thirty-four and twenty-six municipalities achieved the High and Average performance groups, respectively. The remaining 27 municipalities were classified as either Low or Very Low performing on the Public-Safety Sub-index.

The data in ***Figure 15*** (see page 28) show that 44 municipalities improved in their Public Safety Sub-index ranking in 2011 compared to 2009, and 44 declined in their rankings. Santiago Texacuangos Municipality experienced the greatest improvement in ranking—39 positions.

Figure 14: Public Safety Sub-index 2011



Rank	Municipality	Score
1	Conchagua	10.00
2	Texistepeque	9.86
3	Antiguo Cuscatlán	9.42
4	Guaymango	9.31
5	Sonsonate	9.12
6	Suchitoto	9.05
7	Tejutla	8.85
8	San Pablo Tacachico	8.83
9	Chalatenango	8.67
10	Jiquilisco	8.66
11	El Carmen	8.65
12	Santa Tecla	8.59
13	Jujutla	8.59
14	San Luis De La Herradura	8.55
15	Santa Rosa De Lima	8.53
16	Chirilagua	8.49
17	San Pedro Masahuat	8.47
18	San Francisco Menéndez	8.45
19	El Tránsito	8.44
20	San Francisco Gotera	8.44
21	Jucuarán	8.43
22	San Alejo	8.36
23	Anamorós	8.35
24	Pasaquina	8.30
25	Tamanique	8.26
26	La Libertad	8.25
27	Ilopango	8.11
28	Tepecoyo	8.09
29	Moncagua	7.96
30	Nahuizalco	7.96
31	Huizúcar	7.94
32	San Marcos	7.90
33	Atiquizaya	7.86
34	Tecoluca	7.86
35	Mejicanos	7.85
36	San Juan Nonualco	7.83
37	Quezaltepeque	7.79
38	Zaragoza	7.79
39	Santiago de María	7.76
40	Armenia	7.74
41	Metapán	7.67
42	San Julián	7.67
43	Tonacatepeque	7.60
44	Apastepeque	7.58
45	Chinameca	7.56
46	Delgado	7.54
47	Tacuba	7.51
48	Ahuachapán	7.45
49	Berlín	7.45
50	El Paisnal	7.44
51	San José Villanueva	7.42
52	Nueva Concepción	7.31
53	Sonzacate	7.28
54	Corinto	7.27
55	El Rosario	7.23
56	Cojutepeque	7.18
57	San Rafael Cedros	7.18
58	Coatepeque	7.10
59	El Congo	7.09
60	Acajutla	7.08
61	Lolotique	7.07
62	Jucuapa	7.01
63	Nejapa	7.00
64	Juayúa	6.94
65	Izalco	6.91
66	Santiago Nonualco	6.83
67	Soyapango	6.78
68	Santiago Texacuangos	6.75
69	Guazapa	6.72
70	San Salvador	6.69
71	Candelaria De La Frontera	6.60
72	San Luis Talpa	6.55
73	Ayutuxtepeque	6.55
74	Ilobasco	6.53
75	Lislique	6.50
76	Chalchuapa	6.46
77	San Antonio Del Monte	6.46
78	Sensuntepeque	6.40
79	Olocuilta	6.38
80	La Unión	6.34
81	Usulután	6.34
82	Cuscatancingo	6.32
83	Ciudad Barrios	6.31
84	Zacatecoluca	6.25
85	Ciudad Arce	6.20
86	Colón	6.16
87	Santa Elena	6.16
88	San Juan Opico	6.12
89	San Pedro Perulapán	6.07
90	Aguilares	5.89
91	Santa Ana	5.80
92	San Sebastián Salitrillo	5.73
93	Apopa	5.65
94	San Sebastián	5.58
95	San Miguel	5.47
96	Panchimalco	5.34
97	97 Puerto El Triunfo	5.24
98	San Vicente	5.15
99	Santo Tomás	4.34
100	San Martín	4.07

Figure 15: Changes in Public Safety Sub-index Rankings from 2009 to 2011

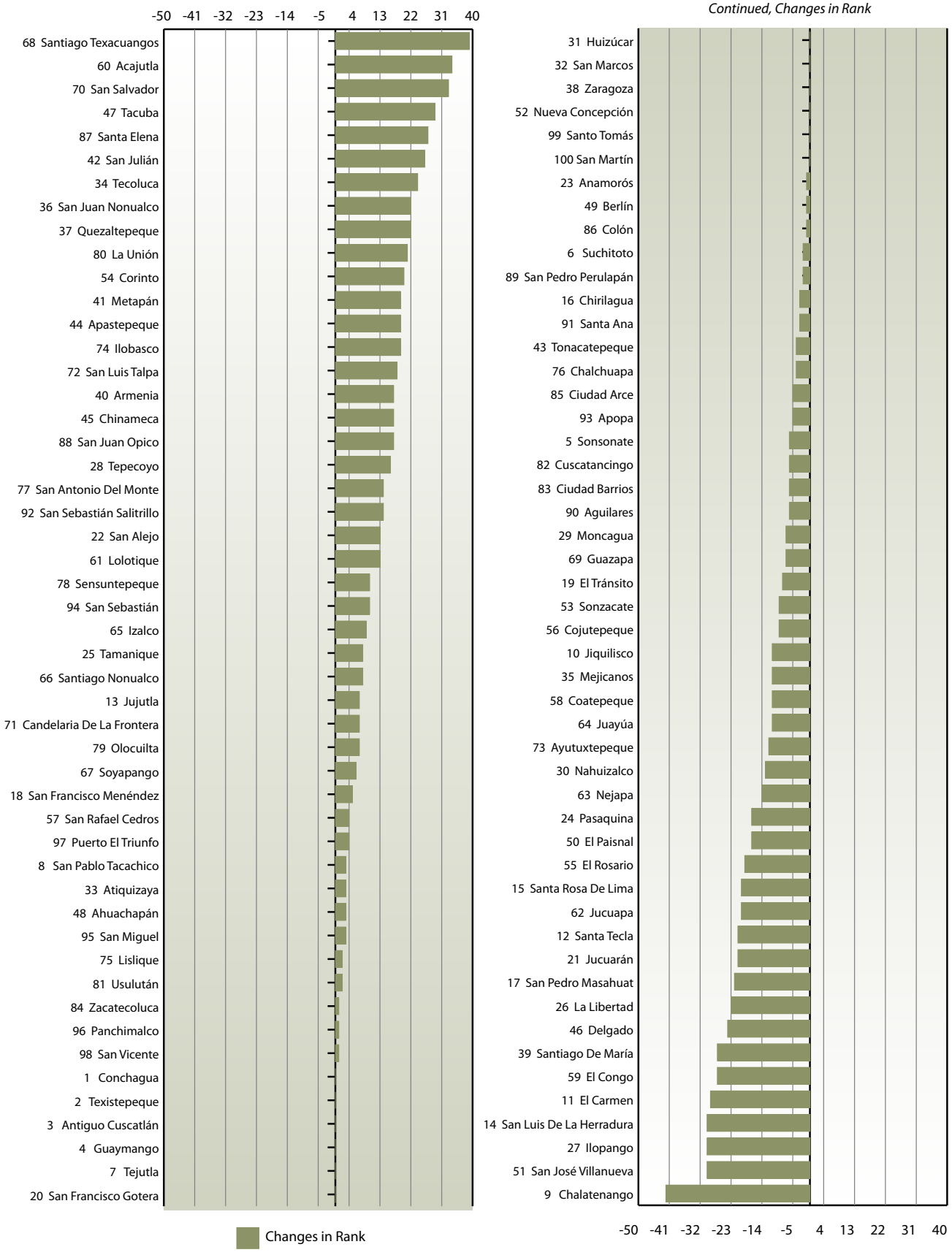


Table 9 shows the 10 municipalities that recorded the greatest increases in the Public Safety Sub-index between 2009 and 2011.

Increased per capita municipal spending in public safety was the main driver for improvement of the Public Safety Sub-index in the municipalities of La Libertad, Mejicanos, Santa Rosa de Lima, and Suchitoto. Additionally, the improvement in this sub-index for Mejicanos and Santa Rosa de Lima municipalities was associated with more favorable perceptions of crime prevention work in 2011 than 2009. This indicator was also associated with improvements in the public safety assessment by businesses in the municipalities of Quezaltepeque, San Francisco Menéndez, Sonsonate, and Tamanique. Reductions in the victimization rates for robbery/theft or extortion kidnapping appeared as key drivers for improvement in the municipalities of Ilopango, Jiquilisco, Suchitoto, and Tamanique.

Time to Compliance

Recent literature strongly suggests that a heavy administrative burden on firms is bad for competition and growth. Djankov et al. (2006) show that the growth of per capita GDP in 135 countries is negatively correlated with an aggregate index of business regulations in seven areas—(1) starting a business, (2) hiring and firing workers, (3) registering property, (4) getting bank credit, (5) protecting equity investors, (6) enforcing contracts in courts, and (7) closing a business. The time that business owners and managers spend in attending to bureaucratic issues, such as inspections and other regulations, reduces the amount of time they can devote to more productive activities directly related to the actual operation of their businesses.[8]

Table 9: Ten Municipalities with Greatest Improvements in the Public Safety Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Santa Rosa de Lima	3.38	46	15	8.53	Per capita municipal spending in public safety. Perception that crime increase is due to bad municipality work
Ilopango	3.10	43	27	8.11	Victimization rate for extortion/kidnapping
Mejicanos	2.99	42	35	7.85	Per capita municipal spending in public safety. Perception that crime increase is due to bad municipality work
Jiquilisco	2.88	37	10	8.66	Per capita municipal spending in public safety. Victimization rate for extortion/kidnapping
Suchitoto	2.80	18	6	9.05	Per capita municipal spending in public safety. Victimization rate for extortion/kidnapping
San Francisco Menéndez	2.78	32	18	8.45	Perception that crime increase is due to bad municipality work and that crime decrease is due to good municipality work
Tamanique	2.76	29	25	8.26	Perception that crime decrease is due to good municipality work. Victimization rate for robbery and/or theft
Sonsonate	2.73	15	5	9.12	Perception that crime increase is due to bad municipality work and that crime decrease is due to good municipality work
Quezaltepeque	2.72	29	37	7.79	Perception that crime increase is due to bad municipality work and that crime decrease is due to good municipality work. Victimization rate for extortion/kidnapping
La Libertad	2.65	27	26	8.25	Per capita municipal spending in public safety

[8] A study by Mark Crain (2005) found that in the United States in 2005, the cost of federal regulations per employee for firms with fewer than 20 employees was US$7,647. The same study confirmed previous research findings establishing that regulatory and paperwork costs are more onerous on small firms than on larger firms.

The Time to Compliance Sub-index assesses how municipalities differ in the frequency, efficiencies, and fairness of local business inspections. This includes the ease of working with municipal officials, their compliance with laws and regulations, and the appropriateness and number of inspections required for compliance. The sub-index was constructed from business survey data, because no municipal survey data could be collected on this issue. A high sub-index value indicates that local businesses require less time to comply with municipal rules.

The average value of the Time to Compliance Sub-index was 6.53. The municipalities of Chalchuapa, Chirilagua, Ilobasco, Nahuizalco, and Santa Tecla achieved the Excellent performance ranking. Ilobasco and Santa Tecla recorded the top scores on the sub-index at 7.85 and 7.84. All of these municipalities were classified as High performing in 2009. ***Figure 16*** shows the value of the Time to Compliance Sub-index by municipality with bars shaded according to performance classification.

The data in ***Figure 17*** (see page 32) shows that 78 municipalities improved their Compliance Sub-index ranking in 2011 compared to 2009 while 18 declined in their rankings. El Congo and Sonzacate municipalities experienced the greatest improvement in ranking—13 positions.

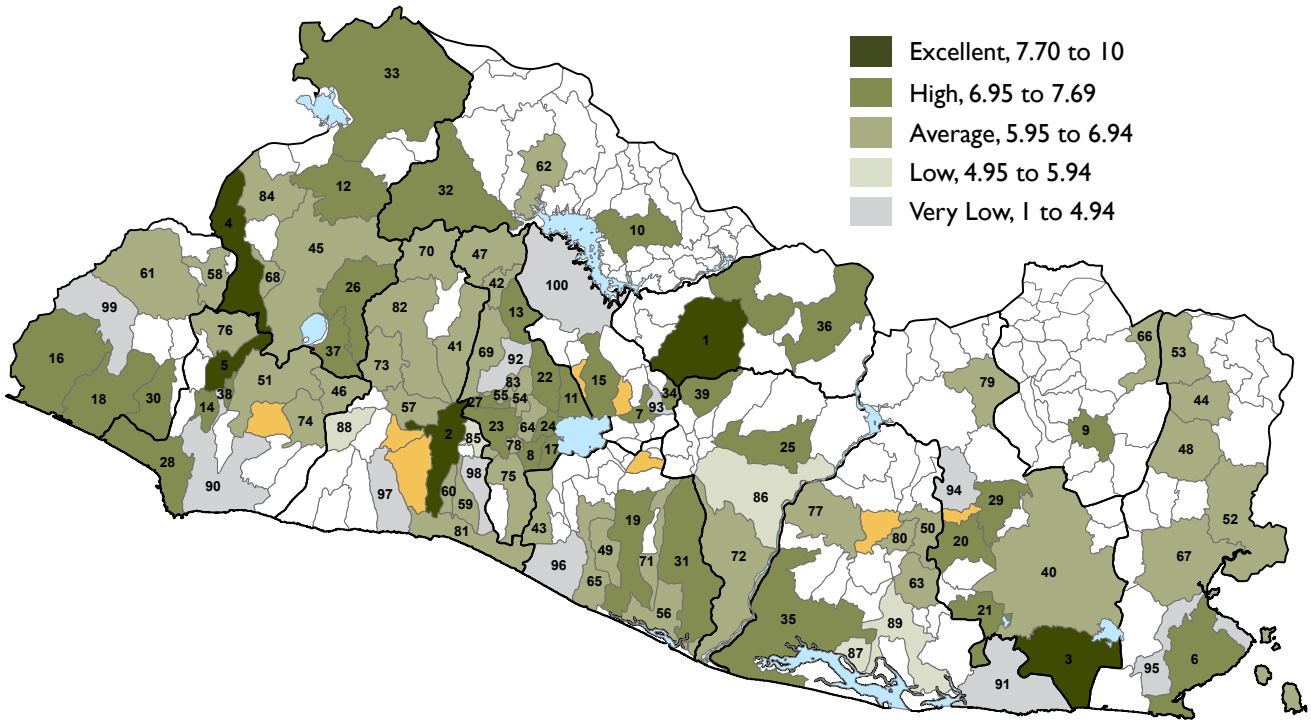
Figure 17 shows that municipalities of Antiguo Cucatlan, Candelaria de la Frontera, Cuscatancingo, Huizúcar, Ilopango La Libertad, Puerto El Triunfo, San Juan Opico, Santa Ana, and Santiago de María experienced substantial declines in their 2011 rankings relative to 2009. With the exception of Huizúcar, which ranked 35 in 2009, the remaining municipalities ranked among the nine municipalities with highest rankings in 2009. This change in ranking did not correspond to sizeable changes in the 2011 Time to Compliance Sub-index score relative to 2009. For instance, Ilopango and Santa Ana increased the value of their scores by 0.28 and 0.29 but ranked 24 and 45, respectively. The municipalities of Antiguo Cucatlan, Candelaria de la Frontera, Cuscatancingo, La Libertad, Puerto El Triunfo, San Juan Opico, and Santiago de María experienced declines in sub-index scores within the 0.01–0.09 range. This decline resulted in low rankings given the improvements observed among municipalities recording high improvements in their rankings. An examination of indicators contributing to the Time to Compliance Sub-index suggests that these municipalities experienced a decline in the percentage of businesses perceiving inspections as fair.

Table 10 shows the 10 municipalities that recorded the greatest improvements in the Time to Compliance Sub-index between 2009 and 2011.

Table 10: Ten Municipalities with Greatest Improvements in the Time to Compliance Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Acajutla	2.00	10	28	5.13	% Businesses inspected in 2010
Chalatenango	2.00	9	10	5.49	% Businesses inspected in 2010
Chalchuapa	2.00	9	4	5.75	% Businesses inspected in 2010
El Congo	2.00	13	37	4.98	% Businesses inspected in 2010
Metapán	2.00	11	33	5.04	Number of inspections per 100 inspected businesses
Nueva Concepción	2.00	11	32	5.04	% Businesses inspected in 2010
Santa Rosa de Lima	2.00	10	48	4.79	% Businesses inspected in 2010
Santa Tecla	2.00	9	2	5.84	Number of inspections per 100 inspected businesses
Tejutla	2.00	11	62	4.59	% Businesses inspected in 2010
Zaragoza	2.00	12	60	4.61	% Businesses inspected in 2010

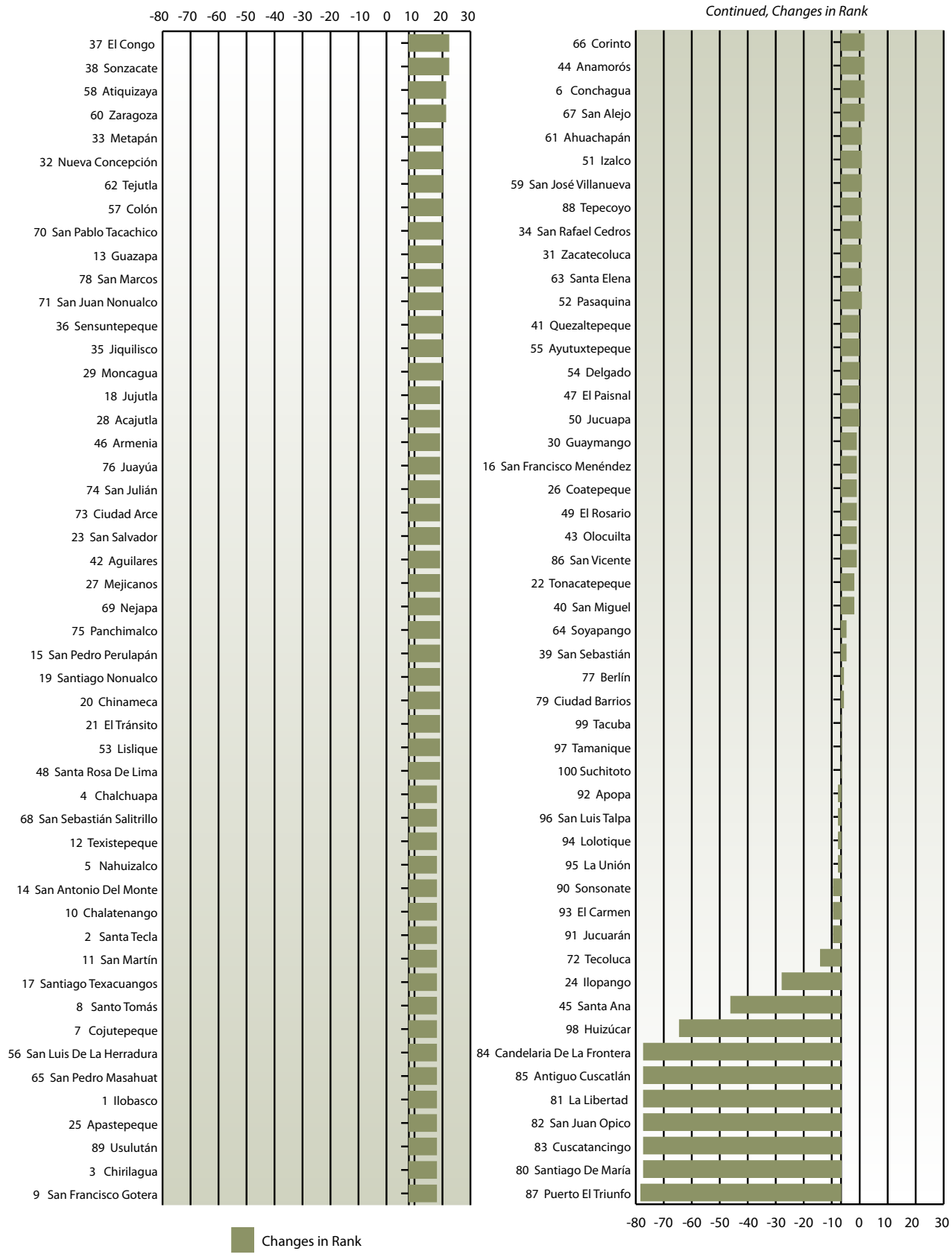
Figure 16: Time to Compliance Sub-index 2011



Rank	Municipality	Score
1	Ilobasco	7.85
2	Santa Tecla	7.84
3	Chirilagua	7.78
4	Chalchuapa	7.75
5	Nahuizalco	7.71
6	Conchagua	7.63
7	Cojutepeque	7.61
8	Santo Tomás	7.54
9	San Francisco Gotera	7.51
10	Chalatenango	7.49
11	San Martín	7.44
12	Texistepeque	7.44
13	Guazapa	7.39
14	San Antonio Del Monte	7.38
15	San Pedro Perulapán	7.37
16	San Francisco Menéndez	7.36
17	Santiago Texacuangos	7.34
18	Jujutla	7.32
19	Santiago Nonualco	7.32
20	Chinameca	7.28
21	El Tránsito	7.25
22	Tonacatepeque	7.25
23	San Salvador	7.23
24	Ilopango	7.23
25	Apastepeque	7.19
26	Coatepeque	7.17
27	Mejicanos	7.15
28	Acajutla	7.12
29	Moncagua	7.11
30	Guaymango	7.08
31	Zacatecoluca	7.07
32	Nueva Concepción	7.04
33	Metapán	7.04
34	San Rafael Cedros	7.04
35	Jiquilisco	7.01
36	Sensuntepeque	6.98
37	El Congo	6.98
38	Sonzacate	6.97
39	San Sebastián	6.95
40	San Miguel	6.94
41	Quezaltepeque	6.94
42	Aguilares	6.93
43	Olocuilta	6.93
44	Anamorós	6.93
45	Santa Ana	6.91
46	Armenia	6.84
47	El Paisnal	6.83
48	Santa Rosa De Lima	6.79
49	El Rosario	6.78
50	Jucuapa	6.77
51	Izalco	6.76
52	Pasaquina	6.73
53	Lislique	6.72
54	Delgado	6.71
55	Ayutuxtepeque	6.70
56	San Luis De La Herradura	6.66
57	Colón	6.63
58	Atiquizaya	6.63
59	San José Villanueva	6.61
60	Zaragoza	6.60
61	Ahuachapán	6.60
62	Tejutla	6.59
63	Santa Elena	6.58
64	Soyapango	6.56
65	San Pedro Masahuat	6.56
66	Corinto	6.53
67	San Alejo	6.50
68	San Sebastián Salitrillo	6.49
69	Nejapa	6.40
70	San Pablo Tacachico	6.39
71	San Juan Nonualco	6.37
72	Tecoluca	6.36
73	Ciudad Arce	6.35
74	San Julián	6.26
75	Panchimalco	6.24
76	Juayúa	6.23
77	Berlín	6.23
78	San Marcos	6.16
79	Ciudad Barrios	6.16
80	Santiago de María	6.14
81	La Libertad	6.08
82	San Juan Opico	6.04
83	Cuscatancingo	5.98
84	Candelaria De La Frontera	5.95
85	Antiguo Cuscatlán*	5.94
86	San Vicente	5.93
87	Puerto El Triunfo	5.90
88	Tepecoyo	5.73
89	Usulután	5.67
90	Sonsonate	4.26
91	Jucuarán	4.25
92	Apopa	4.19
93	El Carmen	4.17
94	Lolotique	4.13
95	La Unión	4.11
96	San Luis Talpa	4.08
97	Tamanique	4.04
98	Huizúcar	4.03
99	Tacuba	3.94
100	Suchitoto	3.40

*Antiguo Cusctlan's performance group designation was corrected to Low to accurately reflect its score.

Figure 17: Changes Time to Compliance Sub-index Ranking from 2009 to 2011



A decline in the number of businesses inspected was the main driver for improvement in the Time to Compliance Sub-index in the municipalities of Metapán and Santa Tecla. A decline in the number of businesses inspected in 2010 was the key for improvement in the remaining eight municipalities listed in ***Table 11***.

Table 11 shows the eight municipalities that experienced a decline in the Time to Compliance Sub-index between 2009 and 2011.

With the exception of Huizúcar, which recorded a decline of 1.13 points in the sub-index score, the remaining municipalities recorded small declines in their 2011 scores relative to 2009. An increase in the percentage of businesses inspected was the main driver of the decline in the sub-index. An increase in the number of businesses that perceived the number of inspections were above normal drove the decline in Santiago Maria; in Huizúcar, the decline resulted from an increase in the number of inspections per 100 businesses.

Rates and Taxes

Rates and taxes are a major source of municipal resources and determine the capacity of any local government to provide quality services to the general population and the business sector. Some municipalities may charge higher taxes or have higher rates than other municipalities within their geographic area, but they also may provide more and/or better quality services. High taxes that are not matched by good provision of services may place municipalities at a relative disadvantage when they try to attract investment. In addition, the difference in rates and taxes influences the distribution of investment and general economic activity across municipalities.

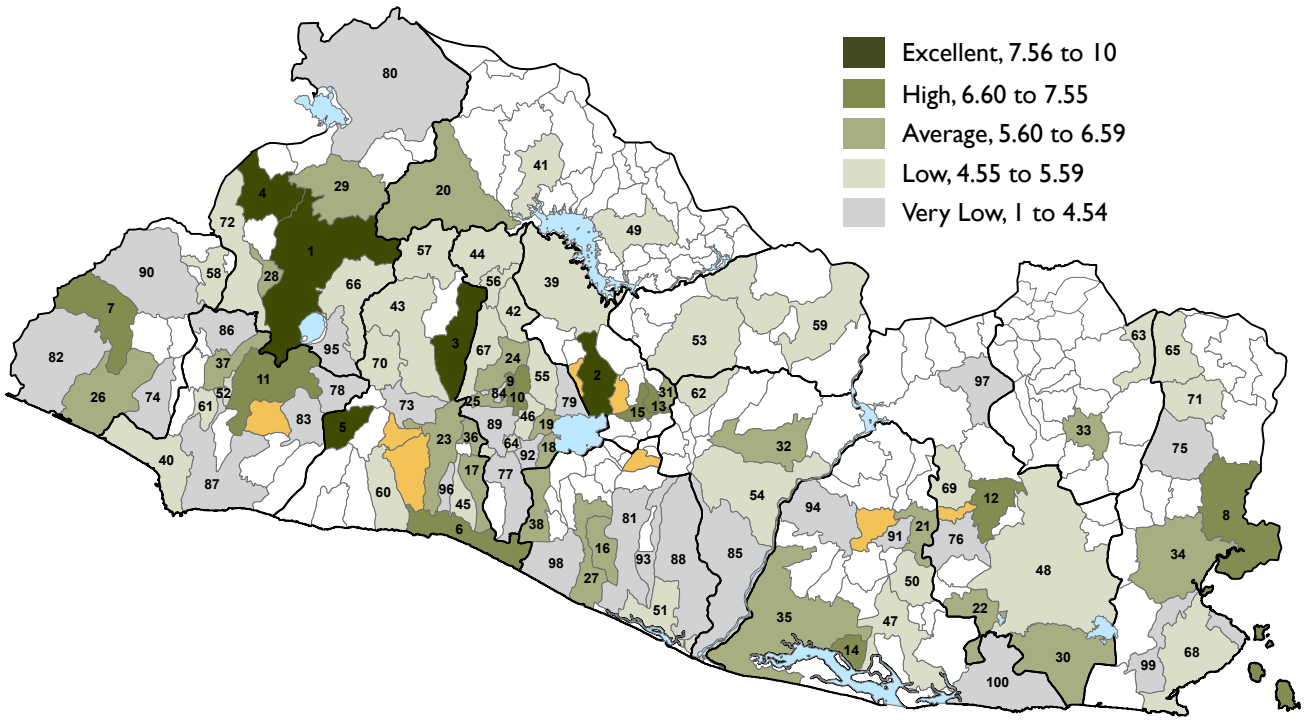
The Rates and Taxes Sub-index assesses differences in the experiences of local businesses with tax payments. It also examines businesses' perceptions on whether local taxes are higher than in neighboring municipalities, whether any advantages are offered by the local tax structure, and whether measures are taken by the municipalities to collect tax payments on time. The sub-index also captures efficiency of local tax revenue in terms of services provided. In addition to the business survey, data from the municipality survey were used to create this sub-index to capture any advantages offered by the local tax structure, as well as local government incentives that inspire businesses to pay their taxes on time, and to measure tax revenue adjusted for the services. A higher sub-index means a municipality is providing a greater fiscal advantage to businesses.

Figure 18 shows the value of the Rates and Taxes Sub-index by municipality with bars shaded according to performance classification.

Table 11: Eight Municipalities with Smallest Improvements in the Compliance Sub-index

Municipality	Improvement in Sub-index Score	2011 Rank	2009 Rank	Indicators With Most Improvement
Antiguo Cuscatlán	-0.01	5.94	5.95	% Businesses inspected in 2010
Candelaria de la Frontera	-0.01	5.95	5.96	% Businesses inspected in 2010
Cuscatangingo	-0.02	5.98	6.00	% Businesses inspected in 2010
San Juan Opico	-0.04	6.04	6.08	% Businesses inspected in 2010
Puerto El Triunfo	-0.04	5.90	5.94	% Businesses inspected in 2010
La Libertad	-0.08	6.08	6.15	% Businesses inspected in 2010
Santiago de María	-0.09	6.14	6.24	% Inspections above normal
Huizúcar	-1.16	4.03	5.19	Number of inspections per 100 inspected businesses

Figure 18: Rates and Taxes Sub-index 2011



Rank	Municipality	Score
1	Santa Ana	8.89
2	San Pedro Perulapán	8.77
3	Quezaltepeque	7.70
4	Candelaria De La Frontera	7.63
5	Tepecoyo	7.61
6	La Libertad	7.32
7	Tacuba	7.16
8	Pasaquina	7.06
9	Cuscatancingo	6.99
10	Delgado	6.97
11	Izalco	6.89
12	Moncagua	6.87
13	El Carmen	6.78
14	Puerto El Triunfo	6.66
15	Cojutepeque	6.62
16	El Rosario	6.55
17	Huizúcar	6.52
18	Santiago Texacuangos	6.52
19	Ilopango	6.44
20	Nueva Concepción	6.38
21	Jucuapa	6.34
22	El Tránsito	6.21
23	Santa Tecla	6.14
24	Apopa	6.14
25	Mejicanos	6.12
26	Jujutla	6.09
27	San Pedro Masahuat	6.08
28	San Sebastián Salitrillo	6.06
29	Texistepeque	6.05
30	Chirilagua	6.03
31	San Rafael Cedros	5.96
32	Apastepeque	5.94
33	San Francisco Gotera	5.77
34	San Alejo	5.77
35	Jiquilisco	5.73
36	Antiguo Cuscatlán	5.72
37	Nahuizalco	5.72
38	Olocuilta	5.69
39	Suchitoto	5.58
40	Acajutla	5.57
41	Tejutla	5.49
42	Guazapa	5.49
43	San Juan Opico	5.49
44	El Paisnal	5.46
45	San José Villanueva	5.41
46	Soyapango	5.41
47	Usulután	5.40
48	San Miguel	5.40
49	Chalatenango	5.35
50	Santa Elena	5.32
51	San Luis De La Herradura	5.31
52	Sonzacate	5.29
53	Ilobasco	5.23
54	San Vicente	5.23
55	Tonacatepeque	5.18
56	Aguilares	5.17
57	San Pablo Tacachico	5.15
58	Atiquizaya	5.15
59	Sensuntepeque	5.09
60	Tamanique	5.05
61	San Antonio Del Monte	5.03
62	San Sebastián	5.03
63	Corinto	5.02
64	San Marcos	4.92
65	Lislique	4.80
66	Coatepeque	4.80
67	Nejapa	4.77
68	Conchagua	4.74
69	Lolotique	4.73
70	Ciudad Arce	4.66
71	Anamorós	4.63
72	Chalchuapa	4.57
73	Colón	4.54
74	Guaymango	4.48
75	Santa Rosa De Lima	4.47
76	Chinameca	4.45
77	Panchimalco	4.45
78	Armenia	4.43
79	San Martín	4.39
80	Metapán	4.32
81	Santiago Nonualco	4.32
82	San Francisco Menéndez	4.30
83	San Julián	4.28
84	Ayutuxtepeque	4.24
85	Tecoluca	4.03
86	Juayúa	4.02
87	Sonsonate	4.00
88	Zacatecoluca	3.96
89	San Salvador	3.86
90	Ahuachapán	3.83
91	Santiago de María	3.81
92	Santo Tomás	3.77
93	San Juan Nonualco	3.69
94	Berlín	3.68
95	El Congo	3.64
96	Zaragoza	3.61
97	Ciudad Barrios	3.36
98	San Luis Talpa	3.30
99	La Unión	2.64
100	Jucuarán	2.54

The average value of the Rates and Taxes Sub-index was 5.37. The municipalities of Candelaria de La Frontera, Quezaltepeque, San Pedro Perulapán, Santa Ana, and Tepecoyo achieved an Excellent ranking. San Pedro Perulapán and Santa Ana recorded the top scores on the sub-index at 8.77 and, 8.89 respectively. These two municipalities ranked first and second on the sub-index in 2009, respectively.

The data in ***Figure 19*** show that 57 municipalities improved in their Rates and Taxes Sub-index ranking in 2011 compared to 2009 while 38 declined in their rankings. Guaymango Municipality experienced the greatest improvement in ranking, climbing 18 positions.

Table 12 shows the 10 municipalities that recorded the greatest improvements in the Rates and Taxes Sub-index between 2009 and 2011.

A decline in the number of businesses perceiving that local taxes are higher than in neighboring municipalities, together with an increase in the number of incentives per 100 businesses, were the main drivers for improvement of the Rates and Taxes Sub-index in the municipalities of Berlín, Puerto El Triunfo, Quezaltepeque, and San José Villanueva. An increase in the number of tax incentives per 100 businesses was the key to improvements in the municipalities of Conchagua, Izalco, and La Libertad. Improved tax revenue standardized by taxes underlies the improvement in the municipalities of El Carmen, San Pedro Masahuat, and Tepecoyo.

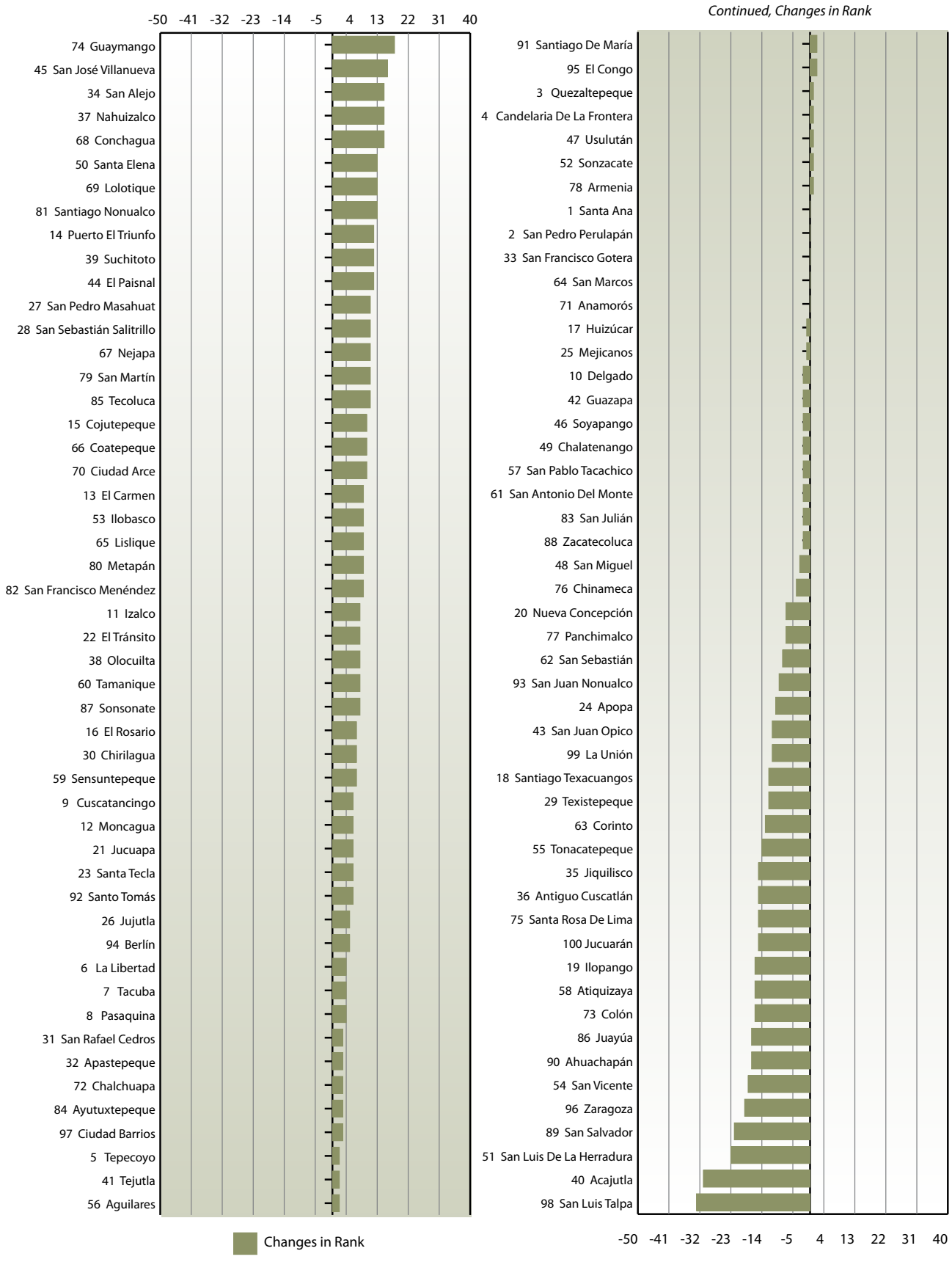
Entry Costs

Legal regulations relating to business entry can have beneficial impacts on private investment. According to Djankov et al. (2002), when legal entry is extremely cumbersome, time-consuming, and expensive, corruption levels are higher, and the relative size of the unofficial economy is greater. As a result, high regulation may cause low levels of tax collection, a heavy tax burden on formal firms, and unfair competition from informal firms since they do not pay taxes. Kaplan et al. (2007), in a study for Mexico, found that by implementing a program to expedite registration for new businesses in municipalities, the number of new start-ups increased by 4% within a 10-month period after the program was implemented. These authors also report that the program was more effective in municipalities with less corruption and cheaper additional procedures.

Table 12: Ten Municipalities with Greatest Improvements in the Rates and Taxes Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Berlín	1.53	5	94	3.68	% Businesses feeling that local taxes are higher than in neighboring municipalities. Number of incentives per 100 businesses
La Libertad	1.53	4	6	7.32	Number of incentives per 100 businesses
San Pedro Masahuat	1.53	11	27	6.08	Number of incentives per 100 businesses. Tax revenue standardized by municipal services
San José Villanueva	1.52	16	45	5.41	% Businesses feeling that local taxes are higher than in neighboring municipalities. Number of incentives per 100 businesses
Tepecoyo	1.52	2	5	7.61	Tax revenue standardized by municipal services
Quezaltepeque	1.52	1	3	7.70	% Businesses feeling that local taxes are higher than in neighboring municipalities. Number of incentives per 100 businesses
Puerto El Triunfo	1.52	12	14	6.66	% Businesses feeling that local taxes are higher than in neighboring municipalities. Number of incentives per 100 businesses
El Carmen	1.52	9	13	6.78	Tax revenue standardized by municipal services
Conchagua	1.52	15	68	4.74	Number of incentives per 100 businesses
Izalco	1.52	8	11	6.89	Number of incentives per 100 businesses

Figure 19: Changes in Rates and Taxes Sub-index Ranking from 2009 to 2011



The Entry Costs Sub-index assesses the differences in entry costs to new firms across municipalities. A new firm was defined as one that started operations in either 2009 or 2010 within a municipality. The businesses contributing data to the computation of the Entry Costs Sub-index did not participate in the 2009 MCI study, and they represented 42.8% of the 4,550 total businesses included in the study leading to the 2011 MCI. The sub-index was constructed from the business survey and supplemented with data obtained from the municipalities to capture the perceived difficulties specific to the business registration and licensing procedures that take place within municipalities. Included are the actual wait in days for approval of all required permits, as recorded by the municipalities; the perception of business owners on the length of time required for the process; ease of obtaining both the information on the process and the actual permits; and the number of documents required for the process.

Figure 20 shows the value of the Entry Costs Sub-index by municipality with bars shaded according to performance classification. Forty-three municipalities recorded values greater or equal to 9.35 on this sub-index and were classified as Excellent. Only 9 of the 44 municipalities ranking Excellent in 2011 also did in 2009.[9] The average value of this sub-index was 9.08, and its distribution was highly concentrated around this mean. This finding suggests that with the exception of the four municipalities that achieved Low or Very Low performing levels[10], the Salvadoran local governments differ little in terms of their entry requirements for new businesses.

The data in ***Figure 21*** show that 51 municipalities improved in their Entry Cost Sub-index ranking in 2011 compared to 2009 while 48 declined in their rankings. San Miguel Municipality experienced the greatest improvement in ranking, climbing 77 positions.

Table 13 shows the 10 municipalities with the greatest improvements in the Entry Costs Sub-index between 2009 and 2011.

The main driver for improvement of the Entry Costs Sub-index in the municipalities of San Miguel and Tacuba was a decline in the number of businesses waiting over three months to obtain permits to start operations. A key indicator for improvement in ranking for San Juan Opico was a decline in the number of businesses waiting over one month to obtain permits to start operations.

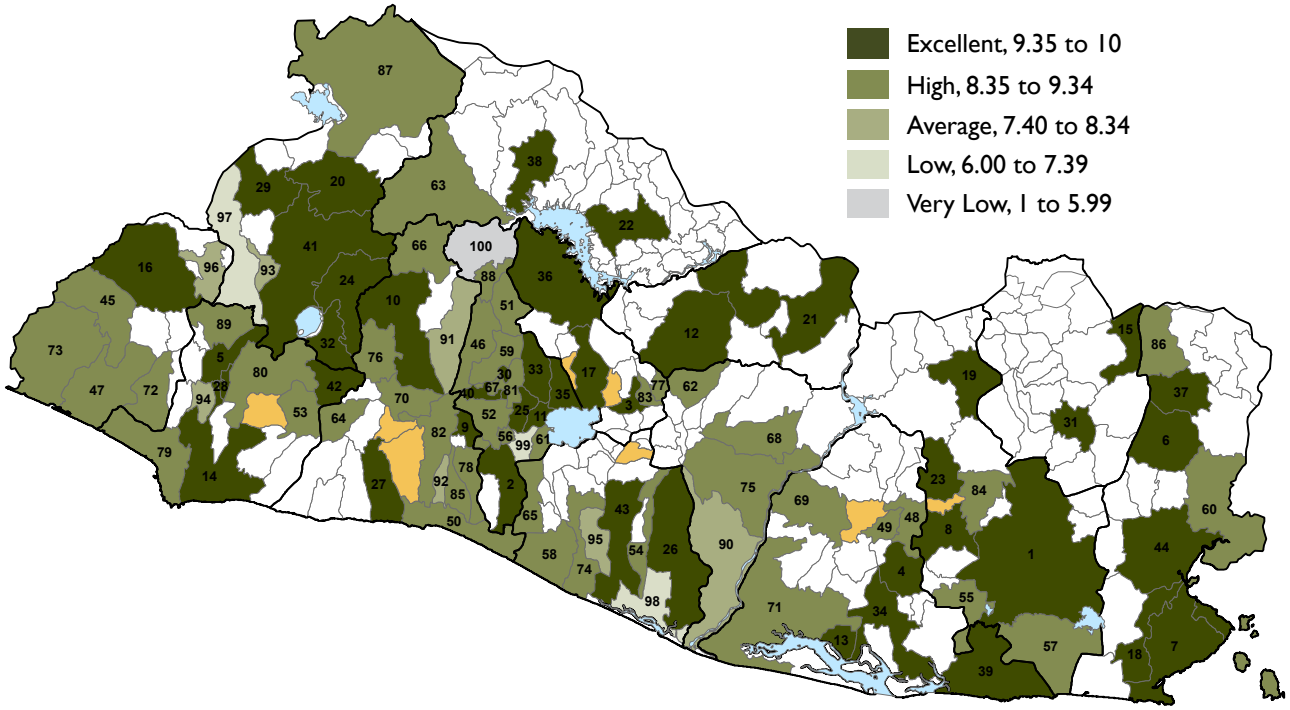
Table 13: Ten Municipalities with Greatest Improvements in the Entry Costs Sub-index

Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Tacuba	3.34	55	45	9.34	% Businesses waiting over-three months to obtain permits to start operations
Santa Ana	2.83	56	41	9.44	Effective wait for business premises (days)
Jujutla	2.73	51	47	9.33	% Businesses having problems with obtaining permits/licenses to start operations
Coatepeque	2.55	69	24	9.66	Effective wait for business premises (days)
San Francisco Menéndez	2.50	26	73	8.92	% Businesses having problems with obtaining permits/licenses to start operations
San Juan Opico	2.33	76	10	9.72	% Businesses waiting over one month to obtain permits to start operations
Tonacatepeque	2.24	55	33	9.58	% Businesses having problems with obtaining permits/licenses to start operations
San Miguel	2.23	77	1	9.79	% Businesses waiting over three months to obtain permits to start operations
San Pedro Perulapán	2.19	64	17	9.70	Effective wait for business premises (days)
Tamanique	2.17	57	27	9.64	% Businesses having problems with obtaining permits/licenses to start operations

[9] These municipalities were Antiguo Cuscatlán, Chalatenango, Ciudad Barrios, Conchagua, Ilobasco, Nahuizalco, Panchimalco, Santa Rosa de Lima, and Zacatecoluca.

[10] These municipalities were Chalchuapa, El Paisnal, San Luis de La Herradura, and Santo Tomás.

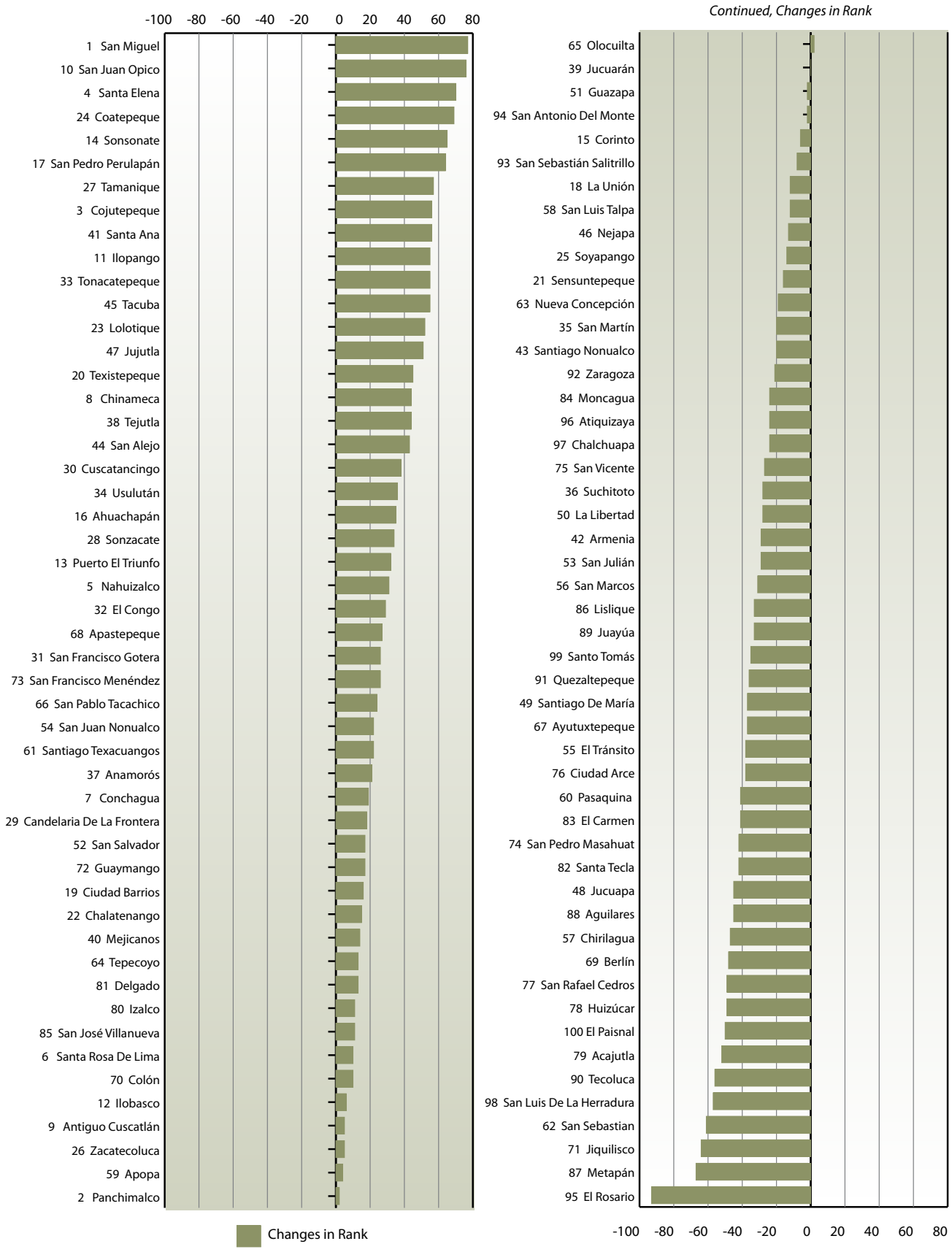
Figure 20: Entry Costs Sub-index 2011



Rank	Municipality	Score
1	San Miguel	9.79
2	Panchimalco	9.77
3	Cojutepeque	9.77
4	Santa Elena	9.76
5	Nahuizalco	9.75
6	Santa Rosa De Lima	9.75
7	Conchagua	9.73
8	Chinameca	9.73
9	Antiguo Cuscatlán	9.73
10	San Juan Opico	9.72
11	Ilopango	9.72
12	Ilobasco	9.72
13	Puerto El Triunfo	9.71
14	Sonsonate	9.71
15	Corinto	9.70
16	Ahuachapán	9.70
17	San Pedro Perulapán	9.70
18	La Unión	9.69
19	Ciudad Barrios	9.69
20	Texistepeque	9.68
21	Sensuntepeque	9.68
22	Chalatenango	9.68
23	Lolotique	9.67
24	Coatepeque	9.66
25	Soyapango	9.65
26	Zacatecoluca	9.64
27	Tamanique	9.64
28	Sonzacate	9.63
29	Candelaria De La Frontera	9.63
30	Cuscatancingo	9.62
31	San Francisco Gotera	9.61
32	El Congo	9.59
33	Tonacatepeque	9.58
34	Usulután	9.57
35	San Martín	9.56
36	Suchitoto	9.50
37	Anamorós	9.49
38	Tejutla	9.48
39	Jucuarán	9.46
40	Mejicanos	9.44
41	Santa Ana	9.44
42	Armenia	9.44
43	Santiago Nonualco	9.43
44	San Alejo*	9.35
45	Tacuba	9.34
46	Nejapa	9.34
47	Jujutla	9.33
48	Jucuapa	9.32
49	Santiago de María	9.29
50	La Libertad	9.28
51	Guazapa	9.27
52	San Salvador	9.26
53	San Julián	9.25
54	San Juan Nonualco	9.25
55	El Tránsito	9.23
56	San Marcos	9.23
57	Chirilagua	9.20
58	San Luis Talpa	9.19
59	Apopa	9.19
60	Pasaquina	9.17
61	Santiago Texacuangos	9.16
62	San Sebastián	9.14
63	Nueva Concepción	9.12
64	Tepecoyo	9.09
65	Olocuilta	9.06
66	San Pablo Tacachico	9.04
67	Ayutuxtepeque	9.01
68	Apastepeque	8.99
69	Berlín	8.96
70	Colón	8.96
71	Jiquilisco	8.96
72	Guaymango	8.96
73	San Francisco Menéndez	8.92
74	San Pedro Masahuat	8.85
75	San Vicente	8.84
76	Ciudad Arce	8.80
77	San Rafael Cedros	8.79
78	Huizúcar	8.78
79	Acajutla	8.75
80	Izalco	8.73
81	Delgado	8.69
82	Santa Tecla	8.68
83	El Carmen	8.64
84	Moncagua	8.54
85	San José Villanueva	8.53
86	Lislique	8.50
87	Metapán	8.46
88	Aguilares	8.42
89	Juayúa	8.42
90	Tecoluca	8.32
91	Quezaltepeque	8.26
92	Zaragoza	8.25
93	San Sebastián Salitrillo	8.22
94	San Antonio Del Monte	8.19
95	El Rosario	8.14
96	Atiquizaya	7.98
97	Chalchuapa	6.76
98	San Luis De La Herradura	6.17
99	Santo Tomás	6.07
100	El Paisnal	4.13

*San Alejo's performance group designation was corrected to Excellent to accurately reflect its score.

Figure 21: Changes in Entry Costs Sub-index Ranking from 2009 to 2011



A reductions in the number of businesses experiencing problems in obtaining permits/licenses to start operations were the main factor behind improvement in the municipalities of Jujutla, San Francisco Menéndez, and Tonacatepeque. Finally, for the municipalities of Coatepeque, San Pedro Perulapán, and Santa Ana, a reduction in the days of waiting for business permits underlies the improvement in the Entry Costs Sub-index.

Municipal Regulations

The Municipal Regulations Sub-index measures how municipalities differ in terms of business perceptions on the number of regulations imposed on businesses to operate. The sub-index was constructed from the business survey to measure the number of regulations, whether this number increased or decreased during 2010, and whether the municipality established adequate mechanisms to ensure compliance with regulations on local businesses. A high value means the municipality successfully promotes investment through a business-friendly regulatory framework.

Figure 22 shows the value of the Regulations Sub-index by municipality with bars shaded according to performance classification.

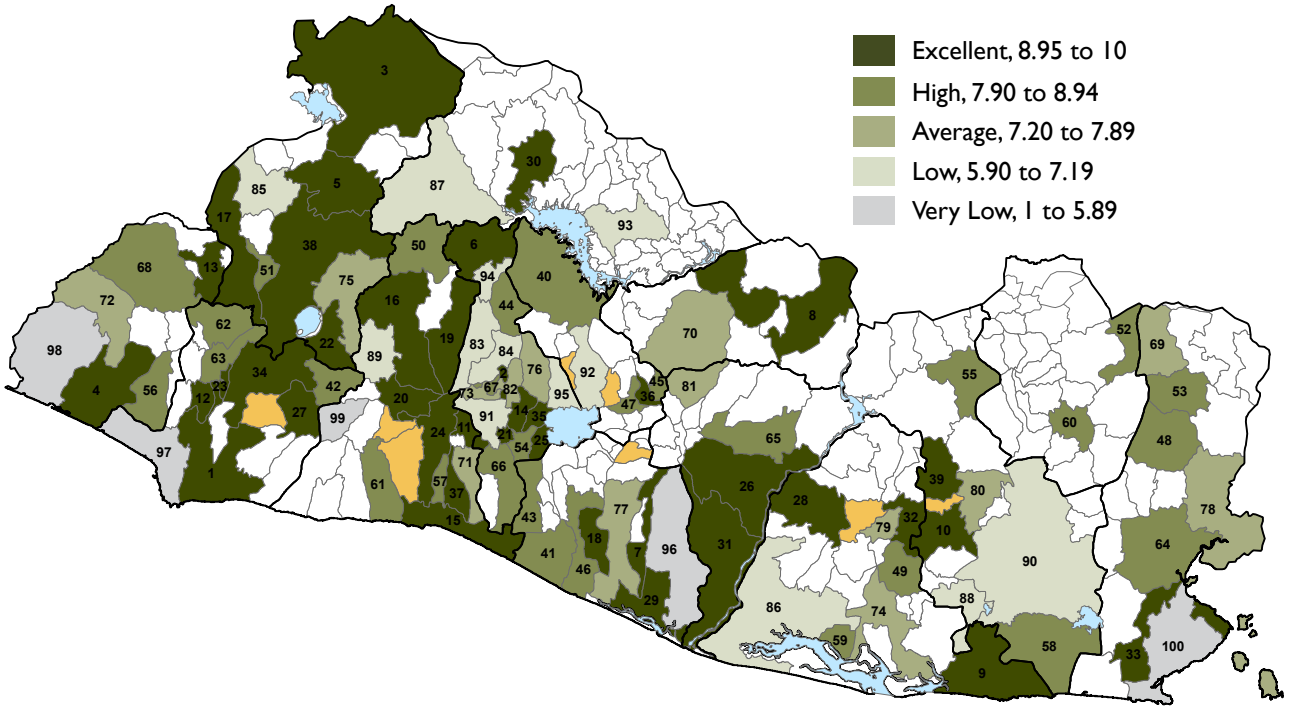
The average value of the Regulations Sub-index was 8.37. Thirty-nine municipalities recorded values greater or equal to 8.95 on this sub-index and were classified as Excellent performers. A total of 35 of the 39 municipalities ranking Excellent in 2011 also achieved this ranking in 2009. The data in ***Figure 23*** (see page 42) show that 44 municipalities improved their Regulations Sub-index ranking in 2011 compared to 2009 while 48 declined in their ranking. San Rafael Cedros Municipality experienced the greatest improvement in ranking, climbing 37 positions.

Table 14 shows the 10 municipalities recording the greatest improvements in the Regulations Sub-index between 2009 and 2011.

Table 14: Ten Municipalities with Greatest Improvements in the Regulations Sub-index

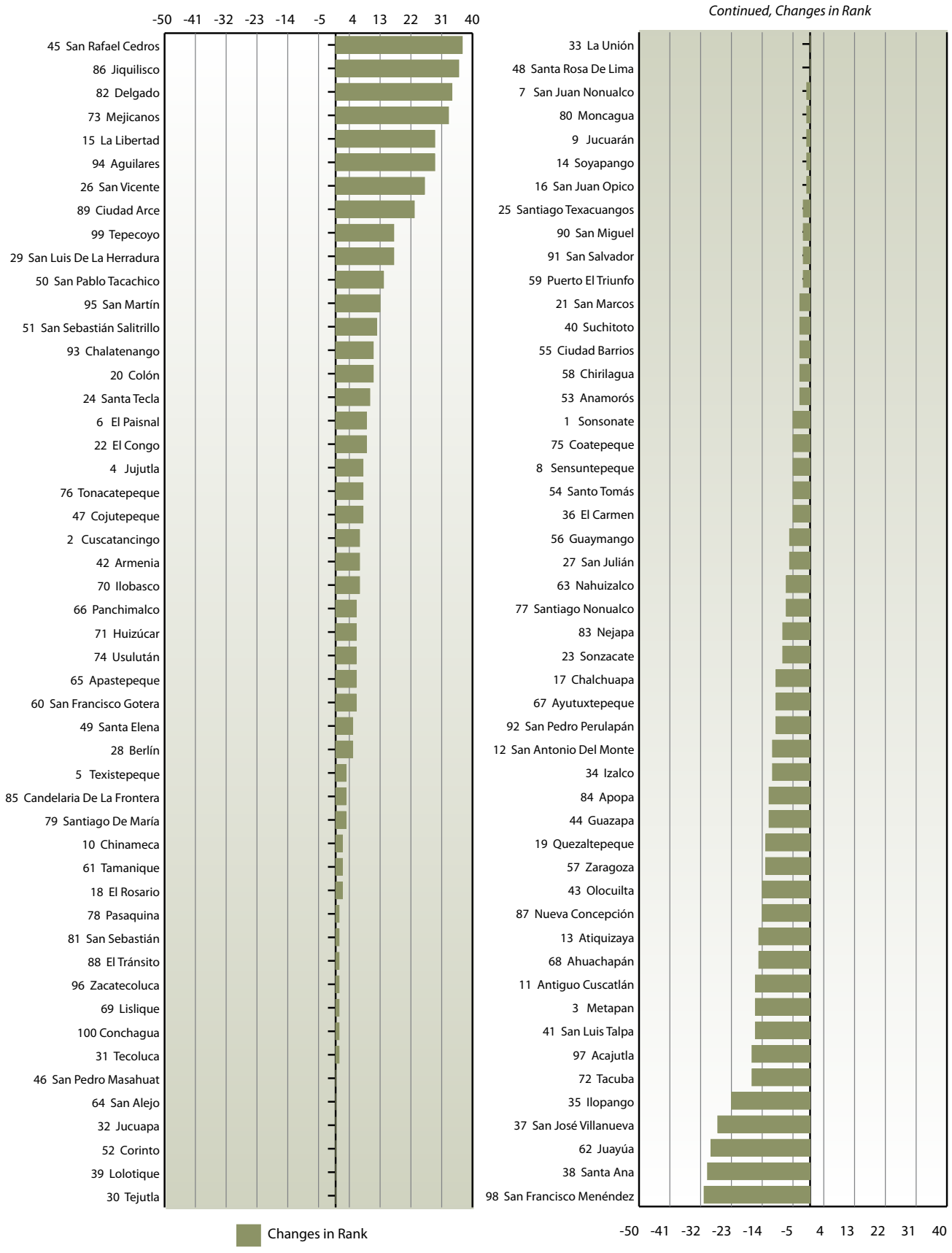
Municipality	Improvement in Sub-index Score	Improvement in Ranking	2011 Rank	2011 Score	Indicators With Most Improvement
Metapán	1.38	9	2	4.91	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities
Suchitoto	1.32	13	40	7.34	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities
Sensuntepeque	1.31	-6	8	4.77	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities
Huizúcar	1.22	6	71	4.37	% Businesses feeling regulations increased during 2010
Ilobasco	1.07	-10	70	4.14	% Businesses feeling regulations increased during 2010
Guazapa	1.06	-16	44	4.96	% Businesses feeling regulations increased during 2010
Candelaria de La Frontera	1.06	2	85	4.60	% Businesses feeling regulations increased during 2010
Nahuizalco	1.03	1	63	4.80	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities
Santa Tecla	1.02	37	24	5.97	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities
Corinto	1.02	-13	52	3.59	% Businesses feeling number of regulations is above normal, compared to neighboring municipalities

Figure 22: Regulations Sub-index 2011



Rank	Municipality	Score
1	Sonsonate	10.0
2	Cuscatancingo	10.0
3	Metapán	10.0
4	Jujutla	10.0
5	Texistepeque	10.0
6	El Paisnal	10.0
7	San Juan Nonualco	10.0
8	Sensuntepeque	10.0
9	Jucuarán	10.0
10	Chinameca	10.0
11	Antiguo Cuscatlán	9.95
12	San Antonio Del Monte	9.94
13	Atiquizaya	9.90
14	Soyapango	9.74
15	La Libertad	9.72
16	San Juan Opico	9.72
17	Chalchuapa	9.69
18	El Rosario	9.67
19	Quezaltepeque	9.67
20	Colón	9.65
21	San Marcos	9.63
22	El Congo	9.61
23	Sonzacate	9.57
24	Santa Tecla	9.47
25	Santiago Texacuangos	9.42
26	San Vicente	9.41
27	San Julián	9.39
28	Berlín	9.35
29	San Luis De La Herradura	9.30
30	Tejutla	9.27
31	Tecoluca	9.25
32	Jucuapa	9.21
33	La Unión	9.15
34	Izalco	9.10
35	Ilopango	9.08
36	El Carmen	9.06
37	San José Villanueva	9.01
38	Santa Ana	9.00
39	Lolotique	8.96
40	Suchitoto	8.90
41	San Luis Talpa	8.86
42	Armenia	8.84
43	Olocuilta	8.82
44	Guazapa	8.78
45	San Rafael Cedros	8.77
46	San Pedro Masahuat	8.76
47	Cojutepeque	8.76
48	Santa Rosa De Lima	8.75
49	Santa Elena	8.75
50	San Pablo Tacachico	8.73
51	San Sebastián Salitrillo	8.70
52	Corinto	8.67
53	Anamorós	8.58
54	Santo Tomás	8.55
55	Ciudad Barrios	8.45
56	Guaymango	8.33
57	Zaragoza	8.32
58	Chirilagua	8.28
59	Puerto El Triunfo	8.21
60	San Francisco Gotera	8.21
61	Tamanique	8.19
62	Juayúa	8.17
63	Nahuizalco	8.12
64	San Alejo	8.12
65	Apastepeque	8.04
66	Panchimalco	8.01
67	Ayutuxtepeque	7.94
68	Ahuachapán	7.91
69	Lislique	7.81
70	Ilobasco	7.80
71	Huizúcar	7.78
72	Tacuba	7.77
73	Mejicanos	7.71
74	Usulután	7.70
75	Coatepeque	7.68
76	Tonacatepeque	7.67
77	Santiago Nonualco	7.53
78	Pasaquina	7.52
79	Santiago de María	7.45
80	Moncagua	7.31
81	San Sebastián	7.22
82	Delgado	7.21
83	Nejapa	7.06
84	Apopa	6.82
85	Candelaria De La Frontera	6.80
86	Jiquilisco	6.73
87	Nueva Concepción	6.68
88	El Tránsito	6.64
89	Ciudad Arce	6.57
90	San Miguel	6.55
91	San Salvador	6.47
92	San Pedro Perulapán	6.37
93	Chalatenango	6.34
94	Aguilares	6.09
95	San Martín	5.93
96	Zacatecoluca	5.74
97	Acajutla	5.59
98	San Francisco Menéndez	5.08
99	Tepecoyo	4.90
100	Conchagua	4.75

Figure 23: Changes in Regulations Sub-index Ranking from 2009 to 2011



For the municipalities of Corinto, Metapán, Nahuizlco, Santa Tecla, Sensuntepeque, and Suchitoto, the improvement in the sub-index came from less businesses feeling that the number of regulations is above normal compared to in neighboring municipalities. A reduction in the number of businesses feeling that regulations increased during 2010 drove improvement in the municipalities of Candelaria de La Frontera, Guazapa, Huizúcar, and Ilobasco.

MCI Rankings for Eight New Municipalities

In 2011, eight municipalities took part in the MCI study for the first time. These local governments are included in the MCP of which the MCI is a component. ***Table 15*** shows the scores for the final MCI and sub-indices for such municipalities.

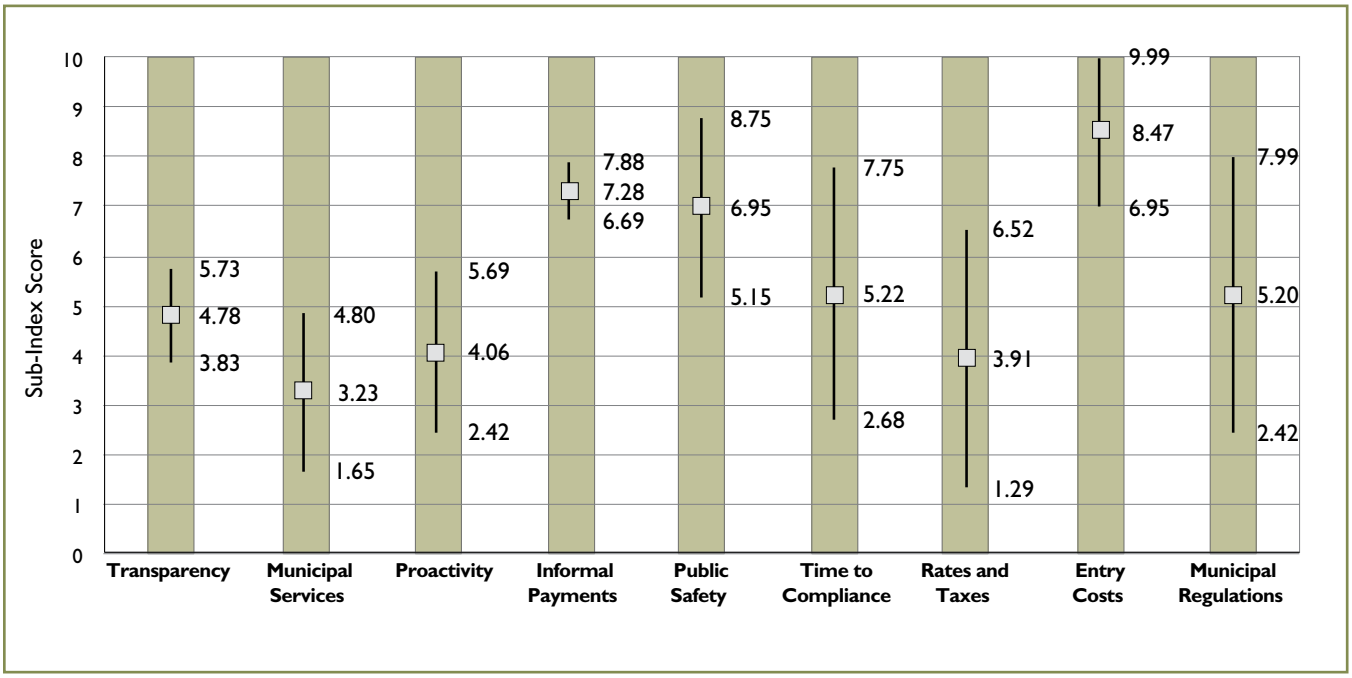
Comasagua and Santa María Ostuma recorded the highest values for the MCI score at 5.59 and 5.53, respectively. The MCI score varied within a relatively narrow range of 1.11 points. The scores for the eight municipalities fell within 95% confidence intervals, which suggest a similarity in the overall business climate among them.

Figure 24 shows the distributions for the sub-indices. This graphic depicts the median, the third and first quartiles, and the minimum and maximum values of each sub-index score. It also highlights those municipalities recording scores outside 95% confidence intervals. A description of the results for each sub-index follows.

Table 15: MCI and Sub-indices in Eight New Municipalities

Municipality Ranking	MCI	Trans-parency	Municipal Services	Pro-activity	Informal Payments	Public Safety	Time to Compliance	Rates and Taxes	Entry Costs	Municipal Regulations
Comasagua	5.59	5.78	3.76	4.88	7.23	6.94	5.02	4.13	8.91	5.65
Santa María Ostuma	5.53	5.25	2.41	4.86	7.37	8.36	4.32	6.06	8.34	5.18
Santa Cruz Michapa	5.39	4.31	4.64	2.89	7.26	6.37	6.00	4.89	9.73	6.24
Talnique	5.37	4.94	3.44	5.12	7.26	6.87	5.54	3.76	7.30	5.53
Caluco	5.16	4.48	2.96	2.87	6.65	7.98	7.51	3.19	7.64	7.37
Alegría	5.13	4.39	3.92	3.59	7.84	7.61	3.20	4.11	8.43	5.18
Nueva Guadalupe	4.89	4.71	2.19	4.34	7.27	5.83	6.17	4.04	8.07	2.15
San Bartolomé Perulapía	4.48	4.39	2.49	3.90	7.39	5.65	3.96	1.08	9.36	4.32
Average	5.73	5.73	3.66	5.37	7.32	6.72	4.71	5.55	9.11	8.23
Standard Deviation	0.34	0.48	0.80	0.83	0.30	0.92	1.29	1.33	0.78	1.42
Variation Coefficient (%)	6.6	10.1	24.9	20.5	4.2	13.2	24.8	34.1	9.2	27.3

Figure 24: Sub-index Distributions, 8 New Municipalities



Transparency

The Transparency Sub-index had an average value of 5.73, with Comasagua recording the highest score at 5.78. The scores for the remaining municipalities were not significantly different from each other. Comasagua did perform better than the other seven municipalities for the following indicators:

- % Businesses not affected by municipal support to the informal sector;
- % Businesses thinking the municipality does not favor businesses owned by people belonging to the mayor's party; and
- % Businesses knowing about the existence of processes to inform citizens on local issues.

Municipal Services

The Municipal Services Sub-index averaged 3.66 across the eight municipalities participating for the first time in the MCI study. None of these municipalities recorded scores outside the 95% confidence interval, which suggests that all performed at the same level for this sub-index.

Proactivity

The Proactivity Sub-index reported an average value of 5.37, with no significant differences detected among the sub-index scores of the eight municipalities. Performance for the Proactivity Sub-index was similar across this group of local governments.

Informal Payments

The Informal Payments Sub-index reported an average value of 7.32, with Alegría recording the highest score at 7.84 and Caluco the lowest at 6.65. The remaining six municipalities were not significantly different from each other in terms of their scores for this sub-index. The best performance for the municipality of Alegría on this sub-index was driven by the following indicators:

- % Businesses feeling municipal tenders are fair;
- % Businesses perceiving tax extra payments are a common occurrence; and
- % Businesses making extra payments to fix tax problems.

In the case of the municipality of Caluco, poor performance on the Informal Payments Sub-index was associated with businesses perceiving that extra payments help in gaining access to local documents or in obtaining permits/licenses and the perception of fairness in municipal tenders.

Public Safety

The Public Safety Sub-index averaged 6.95 across the eight municipalities participating for the first time in the MCI study. None of these municipalities recorded scores outside the 95% confidence band, which suggests that all performed at the same level for this sub-index.

Time to Compliance

The Time to Compliance Sub-index reported an average value of 5.22, with no significant differences being detected in the scores of the eight municipalities. Performance for the Time to Compliance Sub-index was similar across this group of local governments.

Rates and Taxes

The Rates and Taxes Sub-index reported an average value of 3.91, with San Bartolomé Perulapía recording the lowest score at 1.08. The remaining seven municipalities were not significantly different from each other in terms of their scores for this sub-index. The performance on this sub-index for San Bartolomé Perulapía was driven by poor business perceptions of the tax advantages offered by the municipality and the number of incentives the municipality actually offered per 100 businesses.

Entry Costs

The Entry Costs Sub-index averaged 8.47 across the eight municipalities participating for the first time in the MCI study. None of these municipalities recorded scores outside the 95% confidence band, which suggests that all performed at the same level for this sub-index.

Municipal Regulations

The Regulations Sub-index reported an average value of 5.20, with Nueva Guadalupe achieving the lowest score at 2.15. The remaining seven municipalities were not significantly different from each other in terms of their scores for this sub-index. The performance on this sub-index for Nueva Guadalupe was driven by the number of business feeling the number of municipal regulations increased during 2011. The number of businesses that felt the number of local regulations is above normal relative to neighboring municipalities.

SECTION 3: RECOMMENDATIONS AND CONCLUSIONS

Using the MCI for Policy Analysis

Economic Governance and Potential for Economic Growth

The approach implemented to obtain the final MCI derived a set of sub-index weights based on the hypothesis that economic outcomes, such as business sales and numbers of business registered within municipalities, depend on good governance beyond the effects of local resource endowments. This section seeks to examine the reverse issue: whether good governance has the potential to exercise a favorable impact on per capita GDP.

Our findings point toward a conclusion that corruption-related practices significantly impact potential for economic growth and confirm findings from other studies, at least partially (see the ***Technical Appendix*** for methodology). In addition, the time businesses spent in dealing with local regulations appears as an important growth-related factor. Municipalities with greater improvements in these two areas seem to be better positioned to achieve levels of economic growth that are closer to their potential.

Learning from Neighbors: Local Government Association and Cooperation

Local governments can exert a positive effect on growth through spending in public services and public capital. Size and geographic position can become a major constraint to achieving this goal. Small municipalities may face difficulties in generating the tax-derived incomes to finance public services in the quantity and quality required to attract and retain the private investment needed to sustain levels of economic activity that guarantee the wellbeing of residents. On the other hand, small local governments may enjoy better conditions than their larger counterparts in promoting environments conducive to adopting transparent and proactive governance practices.

The results from the analyses performed on the MCI and its components, discussed in previous sections, indicate that Salvadoran municipalities differ in the factors driving competitiveness and that these factors are not necessarily the same for all local governments. Even within specific sub-indices, improved municipal performance is driven by different indicators.

This variability suggests that opportunities exist for cooperation among municipal governments to take advantage of each other's strengths in order to create objective conditions to achieve balanced local and regional growth. Such cooperation would be more effective if it takes place among neighboring municipalities.

The now defunct National Commission for Development (NCD) proposed a classification in regions that remains to date—sub-regions and micro-regions based on the economic potential of the 262 Salvadoran municipalities. The NCD classification determined the following five major regions: (1) Western-The Volcanoes, (2) San Salvador Metropolitan Area, (3) Northern-Lempa River, (4) Central Southern-Comalapa, and (5) Eastern-Fonseca Gulf.

Table 16 lists the municipalities that participated in both the 2009 and 2011 MCI.

The municipalities included in both the 2009 and 2011 MCI studies represented 56.7% of the total municipalities located in Western-The Volcanoes Region, 77.4% in San Salvador Metropolitan Area Region, 20.4% in Northern-Lempa River Region, 36.2% in Central Southern-Comalapa Region, and 27.6% in Eastern-Fonseca Gulf Region. ***Table 17*** (see page 49) shows the numbers of MCI municipalities by the sub-region and micro-region to which they belong.

An assessment of regional differences requires a minimum number of two observations at each level of classification. ***Table 17*** shows a number of micro-regions with only one participating municipality in the MCI studies. This feature indicates that the sub-region was the lowest level feasible for analysis.

A regression model of each of the sub-indices on a set of sub-region indicator variables was fitted to the data. The San Salvador sub-region was defined as the reference category. ***Table 18*** (see page 50) summarizes the estimates of the coefficients for these models.

Table 16: Municipalities Participating in Both the 2009 and 2011 MCI Studies Distribution by NCD Regions

NCD Region	Western-The Volcanoes	San Salvador Metropolitan Area	Northern-Lempa River	Central Southern-Comalapa	Eastern-Fonseca Gulf
Municipalities	Ahuachapán	Armenia	Metapán	Huizúcar	Usulután
	Atiquizaya	Nueva San Salvador	Chalatenango	La Libertad	Berlín
	Guaymango	Antiguo Cuscatlán	Nueva Concepción	San José Villanueva	Jiquilisco
	Jujutla	Ciudad Arce	Tejutla	Tamanique	Jucuapa
	San Francisco Menéndez	Colón	San Pablo Tacachico	Zaragoza	Jucuarán
	Tacuba	Opico	Aguilares	Nejapa	Puerto El Triunfo
	Santa Ana	Quezaltepeque	El Paisnal	Cojutepeque	Santa Elena
	Candelaria De La Frontera	Tepecoyo	Suchitoto	El Carmen	Santiago de María
	Coatepeque	San Salvador	Sensuntepeque	San Rafael Cedros	San Miguel
	Chalchuapa	Apopa	Ilobasco	Zacatecoluca	Ciudad Barrios
	El Congo	Ayutuxtepeque		El Rosario	Chinameca
	San Sebastián Salitrillo	Cuscatancingo		Olocuilta	Chirilagua
	Texistepeque	Delgado		San Juan Nonualco	El Tránsito
	Sonsonate	Guazapa		San Luis Talpa	Lolotique
	Acajutla	Ilopango		San Luis de La Herradura	Moncagua
	Izalco	Mejicanos		San Pedro Masahuat	San Francisco Gotera
	Juayúa	Panchimalco		Santiago Nonualco	Corinto
	Nahuizalco	San Marcos		San Vicente	La Unión
	San Antonio Del Monte	San Martín		Apastepeque	Anamorós
	San Julián	Santiago Texacuangos		San Sebastián	Conchagua
	Sonzacate	Santo Tomás		Tecoluca	Lislique
		Soyapango			Pasaquina
		Tonacatepeque			San Alejo
		San Pedro Perulapán			Santa Rosa de Lima
Number of MCI Municipalities	21	24	10	21	24
Number of El Salvador Municipalities	37	31	49	58	87

Source: NCD, San Salvador, 2004.

Table 17: Municipalities Participating in Both the 2009 and 2011 MCI Studies Distribution by NCD Regions, Sub-regions and Micro-regions

Region	Sub-region	Micro-region	Number of Municipalities
Western-The Volcanoes	Santa Ana	Ahuachapán	2
		Chalchuapa- Atiquizaya	3
		Santa Ana	5
	Sonsonate	Acajutla-Costa Occidental	4
		Sonsonate-Izalco	5
		Juayúa-Nahuizalco	2
Northern-Lempa River	Metapán- La Palma	Metapán	1
	Valle Alto del Lempa-Chalatenango	Valle Alto del Lempa Norte	2
		Chalatenango	1
	Cabañas	Ilobasco	1
		Sensuntepeque	1
San Salvador Metropolitan Area	San Salvador	San Salvador	18
	Valle de San Andrés	Valle de San Andrés	6
Central Southern-Comalapa	Cojutepeque-San Vicente	Cojutepeque	3
		San Vicente Norte	1
		San Vicente	2
	Aeropuerto Zacatecoluca	Aeropuerto	5
		Zacatecoluca	4
	Bálsamo-Costa	Bálsamo- Costa	5
Eastern-Fonseca Gulf	Norte del Oriente	Maniantales del Norte	1
		Osicala-Perquín	1
		Gotera-Chapeltique	1
		Santa Rosa de Lima	3
	Usulután	Santiago de María-Berlín	2
		Valle de la Esperanza	3
		Jiquilisco-Puerto El Triunfo	3
		Usulután	3
	San Miguel	San Miguel	3
	La Unión	La Unión	4

Source: NCD, San Salvador, 2004.

Table 18: Model for Sub-Regional Differences in Measures of Governance Estimated Coefficients
Reference Sub-region: San Salvador

	Transparency	Municipal Services	Proactivity	Informal Payments	Public Safety	Compliance	Rates and Taxes	Entry Costs	Regulations
Santa Ana	-11.31**	-3.56	-1.40	-0.65	2.82	-1.03	0.55	-1.48	0.88
Sonsonate	-7.22**	-6.39	-2.44**	2.76	8.03**	-0.12	-2.32	-1.01	0.43
Valle de San Andrés	-1.99	-2.57	1.00	0.72	1.78	-1.85	0.39	-1.12	-0.08
Cojutepeque-San Vicente	-9.18**	-4.22	-2.78*	4.11	0.74	-1.55	1.15	-1.25	0.56
Aeropuerto-Zacatecoluca	-7.33**	-6.38	0.76	-1.96	4.27	-1.67	-3.48	-4.10	0.79
Bálsamo-Costa	-0.91	1.77	0.57	2.31	7.86**	-5.83**	-0.77	-1.72	0.17
Norte del Oriente	-5.01	-3.37	-1.03	3.77	6.18	-0.09	-3.86*	2.17	0.30
Usulután	-11.24**	-8.67*	-1.24	-0.52	3.92	-3.41**	-2.61*	1.91	0.38
San Miguel	2.79	8.17	-3.39*	-0.76	4.10	2.42	1.84	-0.07	-1.77
La Unión	-3.34	4.77	0.71	-2.70	11.65**	-2.75	-2.35	2.40	-1.76
Metapán-La Palma	-11.51	9.27	0.25	7.14	7.01	1.24	-5.28	-5.80	3.47
Valle Alto del Lempa-Chalatenango	-6.30	4.47	0.83	2.14	9.69**	-2.05	-0.51	-5.63**	-0.52
Cabañas	-12.06	4.72	-2.49	0.39	-2.63	3.11	-1.92	4.12	1.27
Constant	63.91	39.83	17.13	36.96	54.35	33.96	22.56	73.48	16.53
R-Squared	0.38	0.37	0.37	0.29	0.35	0.33	0.32	0.31	0.28

* Significant at the 10% level.

** Significant at the 5% level.

These results suggest that the sub-regions' values for the Informal Payments and Municipal Regulations Sub-indices were not significantly different. None of the sub-regional regression coefficients were statistically different from those for San Salvador Sub-region. Some key findings are noted below.

- The sub-regions of Aeropuerto-Zacatecoluca, Cojutepeque-San Vicente, Santa Ana, Sonsonate, and Usulután recorded statistically lower scores for the Transparency Sub-index than San Salvador Sub-region.
- Usulután Sub-region was the only region that recorded significantly lower scores for the Municipal Services Sub-index than San Salvador Sub-region.
- In terms of Proactivity, the sub-regions of Cojutepeque-San Vicente, San Miguel, and Sonsonate recorded scores that were significantly lower than San Salvador Sub-region.
- Public Safety was the sub-index in which the sub-regions of Balsamo-Costa, La Unión, Sonsonate, and Valle Alto del Lempa-Chalatenago recorded higher scores than San Salvador Sub-region.
- Balsamo-Costa and Usulután sub-regions had lower scores than San Salvador Sub-region in the Compliance Sub-index.
- The sub-regions of Norte del Oriente and Usulután had lower scores than the San Salvador Sub-region in the Rates and Taxes Sub-index.

- Valle Alto del Lempa Sub-region had a lower score for the Entry Costs Sub-index than San Salvador Sub-region.

In general, with a few exceptions and contrary to expectations, sub-regional variations in the measures of economic governance were not significant. This finding suggests that there is a relative homogeneity in economic governance across Salvadoran sub-regions, which makes difficult the identification of clusters. This could be due in to part to socio-cultural or historical factors captured by the regression. For instance, El Salvador is a small country with many municipalities and also is still in the early phases of decentralization. Until recently, most municipalities relied heavily on the central government to solve local problems.

Moving from MCI Scores to Reality Model

The MCI is intended to be used by municipal and central governments as a tool for the following: to identify and remedy constraints to doing business municipalities; to recognize best practices among Salvadoran municipalities; and to replicate best practices throughout the country. As the early paragraphs of this document describe, by ranking municipalities against each other on a variety of indicators, the MCI can create a beneficial sense of competition among municipalities to improve local policies that spur development.

In 2012, the USAID MCP will coordinate a series of dissemination events and workshops in all 14 departments of El Salvador at which the MCI results and next steps for generating a better business environment will be discussed with both the public and private sectors. MCP is also working with 50 municipalities and municipal associations to develop competitiveness improvement plans through a participatory methodology involving the business community. It is expected that these activities will identify best practices and policies that will help all municipalities improve their levels of competitiveness by implementing programs and introducing measures that facilitate and promote local economic development in all Salvadoran municipalities.

Suggested Actions for Municipalities to be Examined During MCI Workshops

Using changes in the 2011 MCI results to identify drivers that contributed to improvement can help municipalities set priorities and develop local action plans for local economic development. Municipalities focusing on sub-indices that are more heavily weighted (such as Transparency, Municipal Services, Proactivity, and Informal Payments), because they are more closely correlated to growth[11], are likely to see their MCI scores increase more. Some steps that municipalities can take to improve their local business environment are highlighted below.

The private sector is a key actor in generating local employment and well being. Increasing participation of business owners and citizens in municipal decision-making processes is an important first step to achieve transparency.

- Host period forums with the business community to discuss sector needs and local government initiatives.
- Invite key members of the business community to participate in planning activities and budget discussions related to local economic development and public services related to private enterprise.
- Hold quarterly meetings with the business community to update them on local government progress and to provide a forum for feedback.
- Promote the creation of public-private partnerships to provide public services or carry out municipal administrative functions.

Taking actions to improve access to local documents and information to improve transparency is a critical step. Access to accurate and reliable information on municipal budgets, planning documents, and local rules and regulations is essential to promote and retain private sector development.

[11] Weights were derived from the relative contribution that each sub-index made to the variations in two measures of economic success of local businesses during 2010: The average sales increase and the number of businesses registered in the municipal cadastre.

- Provide and post clear instructions on the steps involved in registering a business and obtaining key permits at the municipal office, where these documents are requested and granted. Clearly post the fees related to each permit needed, along with the expected time required for the permit to be granted.
- Create a central location, or a "one-stop window" that houses all important information, handles forms and fees, and has knowledgeable staff.
- Provide information regularly to local business associations and to key members of the business community for further dissemination.
- Post key documents and information on the municipal Web site. Update the site regularly so that accurate information is always displayed.
- Develop a phone and/or online municipal customer satisfaction service that will serve both the business sector and citizens.

Continue to streamline regulatory and administrative processes to reduce monetary and time costs to local businesses.

- Periodically review the effects of the regulatory environment on the business community, map processes to identify efficiency improvements, and evaluate regulatory frameworks for consistency.
- Support open, two-way dialog between the business community's stakeholders and the municipal government to identify constraints and actions to improve processes.
- Create "business advocates" within local governments to help new and existing businesses navigate government processes and connect to resources.

Identify innovative ways to assist businesses such as promoting and engaging with business associations, supporting skills training and entrepreneurship programs, and developing services and incentives to attract investors.

- Host informal networking events, allowing the local business community to connect with key political, departmental, and economic development stakeholders.
- Create ways for elected officials to publically celebrate and acknowledge the accomplishments of entrepreneurs and business and stress their importance to the community.
- Hold face-to-face networking events between businesses and financial institutions to improve access to capital.

Take an active role in tackling crime at the local level, because public safety directly affects businesses and investment decisions.

- From municipal competitiveness plans, identify public safety needs, and, with the findings, develop a Crime Prevention Plan, using the USAID-funded Crime and Violence Prevention Project (CVPP) Manual and seek support from Government of El Salvador agencies involved in prevention, such as the Directorate of Social Prevention of Violence and Peace Culture.
- Carry out municipal exchange visits to CVPP municipalities with well-established activities and proven results in crime prevention.
- Set up basic municipal crime observatories, emulating the Santa Tecla Model.
- Link local crime prevention activities with regional plans.

Strengthen municipal linkages within regions, within departments, and across the country to allow better transfers of information, best practices, and local initiatives.

- Work with other municipalities in the same region to schedule a regular meeting to discuss regional efforts to foster economic development. Invite the private sector to participate.
- Give updates on local economic development activities at the department level meetings. Make this a regular agenda item for discussion.
- Work with neighbors to create regional economic development plans that are actionable in nature. Share them with the private sector and ask for feedback. Measure progress and present them each quarter.

Strengthen linkages between the municipal-level governments and the central government will help to better address issues affecting all municipalities and to improve local implementation of national policies.

- Many issues faced by El Salvador businesses are national in nature such as access to finance and issues around land permits. Work with other municipalities to meet on a quarterly basis with the national government on specific topics. Hold an annual meeting to name targets for the coming year and present progress for the past year.

Conclusion

The role of local governments in promoting local economic development is becoming increasingly important in the policy agendas of municipalities. To help municipalities in this key area, the 2011 MCI provides local authorities with valuable opinions and results from a comprehensive survey of local businesses. This information conveys how local businesses experience the impact that regulations and policies have on the local business climate and thereby in investment decisions. By understanding the areas in which businesses experience constraints or difficulties, municipalities can develop and implement measures and policies to overcome the problems faced by entrepreneurs, and thereby promote economic activity and contribute to local development.

Table 19: MCI Overview 2011

MCI Ranking 2011	MCI Rank-ing 2009	Municipality (Department)	MCI 2011	MCI 2009	Transparency	Municipal Services	Proactivity	Informal Payments	Public Safety	Time to Compliance	Rates and Taxes	Entry Costs	Municipal Regulations
88	89	Acajutla (SON)	5.49	5.07	4.52	3.54	4.42	6.13	7.08	7.12	5.57	8.75	5.59
69	56	Aguilares (SAN)	5.86	5.68	5.43	4.50	5.19	7.13	5.89	6.93	5.17	8.42	6.09
91	90	Ahuachapán (AHU)	5.35	5.04	4.90	2.31	4.07	6.61	7.45	6.60	3.83	9.70	7.91
*		Alegría (USU)	5.13		4.39	3.92	3.59	7.84	7.61	3.20	4.11	8.43	5.18
51	60	Anamorós (LAU)	6.16	5.56	5.05	3.10	5.81	7.82	8.35	6.93	4.63	9.49	8.58
1	1	Antiguo Cuscatlán (LLB)	8.01	7.94	7.33	10.00	6.27	9.20	9.42	5.94	5.72	9.73	9.95
47	41	Apastepeque (SVI)	6.22	5.97	5.75	4.96	3.59	7.66	7.58	7.19	5.94	8.99	8.04
40	40	Apopa (SAN)	6.32	5.98	7.01	4.39	7.75	7.03	5.65	4.19	6.14	9.19	6.82
68	80	Armenia (SON)	5.90	5.30	6.34	3.65	5.82	4.77	7.74	6.84	4.43	9.44	8.84
49	52	Atiquizaya (AHU)	6.19	5.73	4.48	4.07	5.50	8.19	7.86	6.63	5.15	7.98	9.90
36	48	Ayutuxtepeque (SAN)	6.39	5.77	7.49	3.67	6.74	7.41	6.55	6.70	4.24	9.01	7.94
82	86	Berlín (USU)	5.58	5.18	5.41	2.75	4.82	6.57	7.45	6.23	3.68	8.96	9.35
*		Caluco (SON)	5.16		4.48	2.96	2.87	6.65	7.98	7.51	3.19	7.64	7.37
60	46	Candelaria De La Frontera (STA)	6.05	5.87	6.12	4.60	3.66	7.01	6.60	5.95	7.63	9.63	6.80
13	21	Chalatenango (CHA)	6.88	6.25	6.88	3.56	8.29	7.44	8.67	7.49	5.35	9.68	6.34
25	13	Chalchuapa (STA)	6.57	6.43	6.61	5.14	5.57	8.48	6.46	7.75	4.57	6.76	9.69
90	95	Chinameca (SMI)	5.41	4.93	4.80	2.51	4.10	5.20	7.56	7.28	4.45	9.73	10.00
48	51	Chirilagua (SMI)	6.19	5.74	5.91	4.74	3.13	6.82	8.49	7.78	6.03	9.20	8.28
94	98	Ciudad Arce (LLB)	5.27	4.82	4.87	2.58	5.07	6.05	6.20	6.35	4.66	8.80	6.57
86	73	Ciudad Barrios (SMI)	5.51	5.40	4.88	2.14	4.76	8.37	6.31	6.16	3.36	9.69	8.45
87	92	Coatepeque (STA)	5.50	4.99	3.98	3.53	4.64	6.05	7.10	7.17	4.80	9.66	7.68
31	43	Cojutepeque (CUS)	6.50	5.92	5.73	3.42	4.35	9.39	7.18	7.61	6.62	9.77	8.76

Table 19: MCI Overview 2011 *(continued)*

MCI Ranking 2011	MCI Rank-ing 2009	Municipality (Department)	MCI 2011	MCI 2009	Transparency	Municipal Services	Proactivity	Informal Payments	Public Safety	Time to Compliance	Rates and Taxes	Entry Costs	Municipal Regulations
56	59	Colón (LLB)	6.10	5.57	5.21	3.41	6.55	7.72	6.16	6.63	4.54	8.96	9.65
*		Comasagua (LLB)	5.59		5.78	3.76	4.88	7.23	6.94	5.02	4.13	8.91	5.65
6	5	Conchagua (LAU)	7.29	6.90	7.82	6.66	7.42	6.97	10.00	7.63	4.74	9.73	4.75
35	44	Corinto (MOR)	6.42	5.91	6.62	3.59	5.20	8.75	7.27	6.53	5.02	9.70	8.67
18	12	Cuscatancingo (SAN)	6.71	6.53	6.80	3.69	7.08	7.74	6.32	5.98	6.99	9.62	10.00
62	63	Delgado (SAN)	6.04	5.53	5.86	3.15	5.74	6.07	7.54	6.71	6.97	8.69	7.21
22	8	El Carmen (CUS)	6.62	6.60	5.37	5.07	5.71	9.02	8.65	4.17	6.78	8.64	9.06
92	96	El Congo (STA)	5.30	4.91	4.38	2.69	4.11	5.96	7.09	6.98	3.64	9.59	9.61
41	25	El Paisnal (SAN)	6.31	6.15	6.22	3.41	5.72	8.88	7.44	6.83	5.46	4.13	10.00
9	9	El Rosario (LPA)	7.06	6.58	6.66	4.19	7.59	8.97	7.23	6.78	6.55	8.14	9.67
16	19	El Tránsito (SMI)	6.74	6.30	5.99	3.70	7.12	8.26	8.44	7.25	6.21	9.23	6.64
53	58	Guaymango (AHU)	6.11	5.59	5.92	2.94	5.17	7.04	9.31	7.08	4.48	8.96	8.33
30	23	Guazapa (SAN)	6.50	6.15	6.64	4.96	5.11	7.57	6.72	7.39	5.49	9.27	8.78
45	35	Huizúcar (LLB)	6.26	6.02	6.69	4.37	3.88	8.92	7.94	4.03	6.52	8.78	7.78
44	31	Ilobasco (CAB)	6.26	6.07	5.30	4.14	5.04	8.33	6.53	7.85	5.23	9.72	7.80
34	24	Ilopango (SAN)	6.43	6.15	7.24	3.56	6.35	4.94	8.11	7.23	6.44	9.72	9.08
81	68	Izalco (SON)	5.59	5.46	4.42	1.87	3.12	8.21	6.91	6.76	6.89	8.73	9.10
50	53	Jiquilisco (USU)	6.19	5.73	5.80	3.41	5.70	6.84	8.66	7.01	5.73	8.96	6.73
37		Juayúa (SON)	6.37	5.93	5.34	5.73	4.42	9.97	6.94	6.23	4.02	8.42	8.17
85		Jucuapa (USU)	5.56	5.34	3.69	1.78	4.44	7.54	7.01	6.77	6.34	9.32	9.21
84		Jucuarán (USU)	5.57	5.39	4.80	3.22	5.63	6.85	8.43	4.25	2.54	9.46	10.00
11	32	Jujutla (AHU)	7.00	6.06	6.45	4.31	4.82	10.00	8.59	7.32	6.09	9.33	10.00
2	2	La Libertad (LLB)	7.78	7.32	6.77	6.83	8.40	9.07	8.25	6.08	7.32	9.28	9.72
97	91	La Unión (LAU)	5.09	5.03	5.22	2.35	4.41	6.93	6.34	4.11	2.64	9.69	9.15
72		Lislique (LAU)	5.79	5.61	5.55	2.97	4.47	8.18	6.50	6.72	4.80	8.50	7.81
54		Lolotique (SMI)	6.11	5.71	5.89	3.18	5.76	9.06	7.07	4.13	4.73	9.67	8.96
20	22	Mejicanos (SAN)	6.64	6.16	5.92	3.65	6.99	7.89	7.85	7.15	6.12	9.44	7.71
26		Metapán (STA)	6.54	6.00	5.24	4.91	5.79	8.82	7.67	7.04	4.32	8.46	10.00
12	15	Moncagua (SMI)	6.92	6.38	6.75	5.62	5.45	8.42	7.96	7.11	6.87	8.54	7.31
17	16	Nahuizalco (SON)	6.71	6.33	5.23	4.80	5.87	8.63	7.96	7.71	5.72	9.75	8.12
63		Nejapa (SAN)	6.01	5.42	5.71	3.76	5.55	7.46	7.00	6.40	4.77	9.34	7.06
73		Nueva Concepción (CHA)	5.75	5.42	4.21	3.16	5.52	6.37	7.31	7.04	6.38	9.12	6.68
*		Nueva Guadalupe (SMI)	4.89		4.71	2.19	4.34	7.27	5.83	6.17	4.04	8.07	2.15
58		Olocuilta (LPA)	6.07	5.53	5.27	3.63	5.92	7.02	6.38	6.93	5.69	9.06	8.82
96		Panchimalco (SAN)	5.10	4.97	4.32	2.12	4.44	6.52	5.34	6.24	4.45	9.77	8.01
15	14	Pasaquina (LAU)	6.76	6.40	6.56	5.76	5.06	7.42	8.30	6.73	7.06	9.17	7.52
42		Puerto El Triunfo (USU)	6.30	6.07	7.27	3.76	4.24	8.91	5.24	5.90	6.66	9.71	8.21

Table 19: MCI Overview 2011 *(continued)*

MCI Ranking 2011	MCI Rank-ing 2009	Municipality (Department)	MCI 2011	MCI 2009	Transparency	Municipal Services	Proactivity	Informal Payments	Public Safety	Time to Compliance	Rates and Taxes	Entry Costs	Municipal Regulations
14	17	Quezaltepeque (LLB)	6.80	6.32	5.91	3.64	6.73	8.12	7.79	6.94	7.70	8.26	9.67
61		San Alejo (LAU)	6.04	5.46	4.63	3.07	6.89	6.09	8.36	6.50	5.77	9.35	8.12
28	27	San Antonio Del Monte (SON)	6.53	6.13	7.52	3.60	6.08	7.70	6.46	7.38	5.03	8.19	9.94
*		San Bartolomé Perulapía (CUS)	4.48		4.39	2.49	3.90	7.39	5.65	3.96	1.08	9.36	4.32
10	11	San Francisco Gotera (MOR)	7.03	6.53	7.34	3.11	7.62	8.39	8.44	7.51	5.77	9.61	8.21
95		San Francisco Menéndez (AHU)	5.26	4.98	5.13	2.50	3.90	5.43	8.45	7.36	4.30	8.92	5.08
67		San José Villanueva (LLB)	5.94	5.31	5.63	2.37	5.68	7.13	7.42	6.61	5.41	8.53	9.01
70		San Juan Nonualco (LPA)	5.84	5.50	5.49	2.21	5.35	7.56	7.83	6.37	3.69	9.25	10.00
38		San Juan Opico (LLB)	6.33	6.05	6.81	3.19	4.82	9.16	6.12	6.04	5.49	9.72	9.72
27		San Julián (SON)	6.53	5.89	7.53	2.49	6.43	8.73	7.67	6.26	4.28	9.25	9.39
79		San Luis De La Herradura (LPA)	5.68	5.22	6.11	1.80	6.14	4.99	8.55	6.66	5.31	6.17	9.30
93		San Luis Talpa (LPA)	5.29	5.28	5.35	1.57	4.16	8.86	6.55	4.08	3.30	9.19	8.86
66		San Marcos (SAN)	5.94	5.75	5.93	2.54	5.61	6.61	7.90	6.16	4.92	9.23	9.63
71		San Martín (SAN)	5.81	5.21	6.65	2.79	6.70	6.86	4.07	7.44	4.39	9.56	5.93
59		San Miguel (SMI)	6.05	5.54	7.35	4.04	5.16	6.48	5.47	6.94	5.40	9.79	6.55
8	10	San Pablo Tacachico (LLB)	7.09	6.56	6.46	5.52	6.64	9.18	8.83	6.39	5.15	9.04	8.73
7	4	San Pedro Masahuat (LPA)	7.29	6.92	7.20	5.08	8.02	8.36	8.47	6.56	6.08	8.85	8.76
80		San Pedro Perulapán (CUS)	5.68	5.50	5.13	2.74	3.41	6.40	6.07	7.37	8.77	9.70	6.37
39	28	San Rafael Cedros (CUS)	6.33	6.10	6.15	3.12	4.91	8.70	7.18	7.04	5.96	8.79	8.77
21	26	San Salvador (SAN)	6.64	6.14	6.27	4.46	6.41	10.00	6.69	7.23	3.86	9.26	6.47
83		San Sebastián (SVI)	5.58	5.38	5.18	2.44	3.66	8.79	5.58	6.95	5.03	9.14	7.22
77		San Sebastián Salitrillo (STA)	5.70	5.20	5.46	3.03	5.41	6.29	5.73	6.49	6.06	8.22	8.70
89		San Vicente (SVI)	5.42	5.15	4.66	2.36	6.47	5.72	5.15	5.93	5.23	8.84	9.41
33		Santa Ana (STA)	6.48	6.01	3.70	3.35	7.42	8.15	5.80	6.91	8.89	9.44	9.00
*		Santa Cruz Michapa (CUS)	5.39		4.31	4.64	2.89	7.26	6.37	6.00	4.89	9.73	6.24
55		Santa Elena (USU)	6.10	5.55	5.46	3.45	4.48	9.09	6.16	6.58	5.32	9.76	8.75
*		Santa María Ostuma (LPA)	5.53		5.25	2.41	4.86	7.37	8.36	4.32	6.06	8.34	5.18
23		Santa Rosa De Lima (LAU)	6.59	6.02	5.90	6.97	4.33	7.36	8.53	6.79	4.47	9.75	8.75
4	7	Santa Tecla (LLB)	7.48	6.62	7.45	5.97	6.48	8.86	8.59	7.84	6.14	8.68	9.47

Table 19: MCI Overview 2011 *(continued)*

MCI Ranking 2011	MCI Rank-ing 2009	Municipality (Department)	MCI 2011	MCI 2009	Transparency	Municipal Services	Proactivity	Informal Payments	Public Safety	Time to Compliance	Rates and Taxes	Entry Costs	Municipal Regulations
52		Santiago de María (USU)	6.15	6.01	4.33	3.63	7.66	7.97	7.76	6.14	3.81	9.29	7.45
76		Santiago Nonualco (LPA)	5.71	5.52	5.41	3.75	5.41	5.50	6.83	7.32	4.32	9.43	7.53
19	20	Santiago Texacuangos (SAN)	6.67	6.27	7.07	5.10	4.21	8.19	6.75	7.34	6.52	9.16	9.42
98	97	Santo Tomás (SAN)	5.02	4.84	5.59	3.10	3.23	6.24	4.34	7.54	3.77	6.07	8.55
64	55	Sensuntepeque (CAB)	6.01	5.68	5.07	4.77	4.72	6.61	6.40	6.98	5.09	9.68	10.00
74		Sonsonate (SON)	5.74	5.36	6.40	3.21	4.94	5.54	9.12	4.26	4.00	9.71	10.00
65		Sonzacate (SON)	5.97	5.36	3.90	1.80	4.67	10.00	7.28	6.97	5.29	9.63	9.57
24		Soyapango (SAN)	6.57	6.08	6.97	3.32	7.08	7.50	6.78	6.56	5.41	9.65	9.74
32		Suchitoto (CUS)	6.48	6.04	5.40	7.34	4.97	7.31	9.05	3.40	5.58	9.50	8.90
78	87	Tacuba (AHU)	5.70	5.18	5.13	2.73	4.96	7.05	7.51	3.94	7.16	9.34	7.77
*		Talnique (LLB)	5.37		4.94	3.44	5.12	7.26	6.87	5.54	3.76	7.30	5.53
46	47	Tamanique (LLB)	6.22	5.80	7.05	4.11	6.21	6.60	8.26	4.04	5.05	9.64	8.19
43	50	Tecoluca (SVI)	6.26	5.74	5.42	5.11	6.64	6.56	7.86	6.36	4.03	8.32	9.25
29	18	Tejutla (CHA)	6.52	6.31	5.73	3.52	5.57	8.43	8.85	6.59	5.49	9.48	9.27
5	6	Tepecoyo (LLB)	7.42	6.63	8.01	5.89	7.25	9.39	8.09	5.73	7.61	9.09	4.90
3	3	Texistepeque (STA)	7.60	7.19	7.84	4.82	7.07	8.83	9.86	7.44	6.05	9.68	10.00
75	82	Tonacatepeque (SAN)	5.72	5.22	5.37	2.49	3.15	8.02	7.60	7.25	5.18	9.58	7.67
100	99	Usulután (USU)	4.94	4.58	4.50	2.89	4.29	3.88	6.34	5.67	5.40	9.57	7.70
99	100	Zacatecoluca (LPA)	4.95	4.48	4.01	2.77	4.43	5.18	6.25	7.07	3.96	9.64	5.74
57	70	Zaragoza (LLB)	6.09	5.45	5.95	3.52	5.66	7.94	7.79	6.60	3.61	8.25	8.32

Department codes: AHU (Ahuachapán), CAB (Cabañas), CHA (Chalatenango), CUS (Cuscatlán), LAU (La Unión), LLB (La Libertad), LPA (La Paz), MOR (Morazán), SAN (San Salvador), SMI (San Miguel), SON (Sonsonate), STA (Santa Ana), SVI (San Vicente), USU (Usulután)

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TECHNICAL APPENDIX:

El Salvador Municipal Competitiveness Index 2011

Measuring Local Economic Governance to Create A Better Business Environment

Contract EPP-I-00-04-00037-00

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CONTENTS

TABLES

TECHNICAL APPENDIX

Methodological Aspects of the El Salvador Municipal Competitiveness Index 2011

Information Sources

The data used to construct the Municipal Competiveness Index (MCI) and component sub-indices were collected in two surveys. The first was a sample survey of fixed-location establishments in each of the 108 municipalities included in the study. The second was a survey of mayors and officers across the 108 municipalities. Other sources of municipal data were the Diario Oficial, municipality Web sites, and reports published by government agencies, in particular the Instituto Salvadoreño para el Desarrollo Municipal (ISDEM), the Fondo de Inversión para el Desarrollo Local (FISDL), and the Corporación de Municipalidades de El Salvador (COMURES).

Survey Methodology

BUSINESS SURVEY

SURVEY DESIGN

The business survey was designed as a two-stage sample within each of the 108 municipalities included in the study. The first stage consisted of the selection of a systematic sample of blocks within a municipality, with probability proportional to the block distance from the main business district, usually downtown. The second stage consisted of the systematic selection of business establishments within selected blocks, with probability proportional to the number of establishments within blocks. This sample design resulted in a clustered sample of establishments within each municipality. The 2011 business survey used an updated version of the sampling cartography developed as part of the data collection for the 2009 MCI.

SURVEY STUDY POPULATION

Contrary to 2009 when the number of businesses in the population was known, the 2011 survey faced the problem that there was not an updated official count of establishments with a fixed location in the 108 project municipalities. The assumption was made that the size of the survey population remained at the same level as for the 2009 business survey, therefore it consisted of 165,831 establishments with a fixed location in the 108 project municipalities.

SAMPLE SIZE AND SAMPLE DISTRIBUTION

The total sample size was set at 4,627 establishments across the 108 municipalities included in the study. The minimum sample size within each municipality was preset at 40 establishments.[1] For a cluster sample of establishments, the overall sample size was enough to estimate a proportion with a relative standard error of 3.1% for any single characteristic that was present among 30.0% of the establishments in the study. Within a municipality, a sample of 40 establishments enabled the estimation of a proportion with a relative standard error of 24.2%. The sample size was increased in the municipalities with greater concentration of economic activity.[2]

To minimize the impact of closed businesses and nonresponses to the survey, a sample of 16,659 fixed-location establishments was selected with a probability proportional to the number of establishments within each selected block. Within each municipality, the number of establishments initially selected in a sample varied between a minimum of 61 and a maximum of 288. Such an inflated sample size was designed to attain the effective sample size of 40 establishments. The final effective sample was 4,627 establishments.[3]

Table A-1 shows the distribution of businesses according to number of employees, and whether they keep formal accounting (based on data from the 2011 and 2009 MCI business surveys and data from the 2005 Economic Census). The data in ***Table A-1*** show that in 2011, the distribution of the business sample was similar to 2009 in terms of both number of employees and percent businesses keeping formal accounting.

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[1] This sample size was enough to derive reasonably narrow confidence intervals around individual indicators and precise estimates for a factor analysis conducted on up to 400 variables.

[2] These municipalities were San Salvador (241), Soyapango (80), Santa Tecla (60), Santa Ana (80), San Miguel (80), and Sonsonate (60).

[3] The following municipalities recorded sample sizes that were below the desired number of 40 establishments: El Paisnal (17), El Carmen (Cuscatlán) (17), El Rosario (La Paz) (17), San Juan Nonualco (20), Caluco (24), Talnique (27), Huizucar (29), Tejutla (30), and Santa Maria Ostuma (32).

Table A-1: Businesses by Number of Employees and Percent Keeping Formal Accounts

	PERCENT		
	2005 Census	2009 Sample	2011 Sample
Micro (Less than 10 employees)	95.55	97.23	97.45
Small (10 to 49 employees)	3.61	2.1	2.04
Medium (50 to 99 employees)	0.42	0.36	0.30
Large (100 employees or more)	0.41	0.31	0.22
Keeping Formal Accounts	17.94	34.86	34.82
Number of Businesses	165,319	3,898	4,627

SAMPLING FRAME

The sampling frame consisted of a list of area blocks specially developed for the 2009 study and updated in 2011. In most municipalities, blocks consisted of groups of urban squares well delimited by streets starting from the geographical center, normally the central park. In San Salvador and other large municipalities, the city was divided into known business districts, and blocks were formed starting from an *a priori* defined geographical center. A systematic sample of blocks was selected with probability proportional to the distance from the center. Field staff counted the number of establishments with a fixed location within each selected block. The sampling frame consisted of the list of selected blocks together with the count of establishments within each of them.

MUNICIPALITY SURVEY

The municipality survey was conducted in the same 108 municipalities through interviews with mayors and other municipal officials. Problems occurred with the municipality of Santo Tomas, which was reluctant to participate in the survey.

SURVEY QUESTIONNAIRE DEVELOPMENT AND TESTING

Both survey questionnaires were developed by MCI project staff. Extensive desk research was conducted on the municipal business environment in El Salvador, with additional information gathered through regional stakeholder meetings with the business community, mayors, and other key government officials. The draft questionnaires were validated using focus groups that were held with business owners in San Salvador and Santa Tecla, and with municipal officers in Santa Tecla and Sonsonate. Simultaneously, the first training session held with the field staff who would conduct the interviewers was used to test the tone, level, and accuracy of the language of the questions included in the first versions of the survey questionnaires. Adjustments were made to the survey forms and pilot tests were conducted with a sample of establishments and with municipal officers in Santa Tecla and Zaragoza. These pilot tests provided useful data to develop the final versions of the survey questionnaires and to test the field procedures.

DATA COLLECTION

Data were collected from April 11 to June 11, 2011, by a team of 15 interviewers organized into three groups, each under the leadership of one field supervisor. The three supervisors reported directly to a head of operations[4]. An additional group of four interviewers and one supervisor collected data on businesses that had changed its location to a municipality different from where they operated in 2009. Field staff was trained over a two-week period to ensure their full understanding of the survey questions and the structure of the survey form, the cartography, the field procedures for the selection of establishments, and the formation of the panel survey.

QUALITY CONTROL

Quality control procedures were strengthened to ensure the integrity of the data collected by requiring supervisors to conduct validation interviews with businesses already visited by the staff under their leadership. The head of operations conducted quality checks on a 10% sample of business survey forms and on a 20% sample of the panel survey forms.

DATA ENTRY, PROCESSING, AND PRODUCTION OF CLEAN FILES

SPSS Data Entry Builder™ was used to develop a customized data entry and editing program to capture and manage the data from the survey forms. Clean files were produced in SPSS format.

PANEL DATA STRUCTURE AND DERIVED SURVEY WEIGHTING

The need to asses change in the MCI and its sub-indices for the 100 municipalities included in both the 2009 and 2011 studies required the introduction of a panel scheme in the 2011 data collection. A total of 957 businesses selected in the 2011 survey were also included as part of the 2009 sample. This overlapping sample represented 22.2% of the 4,313 businesses selected within the 100 municipalities that participated in both the 2009 and 2011 MCI studies.

An Overview of the Process for Constructing the MCI

The MCI construction process consisted of the following stages:

- Indicators were selected for the variables included as part of the sub-indices. Data for these indicators were gathered through the business and municipality surveys.
- Indicator values were transformed to a scale ranging from 1 to 10, where 1 represented the lowest value and 10 the highest value of the characteristic they represented.
- Unweighted MCI scores were obtained from the sum of the sub-index values. The unweighted MCI could take on a maximum value of 90 for a municipality with a perfect score for all the sub-indices.
- A simple total of the sub-index scores is not sufficient to measure the municipalities' level of competitiveness. This is because some sub-indices are highly correlated with business success and therefore contribute more to the MCI. The specific weights for each sub-index were obtained via regression analysis of two measures of business performance: scores derived from a factor analysis of the sub-indices, and three measures of municipal structural conditions.[5]
- The final MCI was obtained as the weighted sum of the sub-indices. See ***Table 19*** in Section 1 of the MCI 2011 report for an overview of the 2011 MCI scores by sub-index.

Details of the MCI Construction Process

In general, the procedures implemented to construct the MCI and its sub-indices were the same as those used in 2009 MCI study.[6] There were some differences due to the fact that 100 out of the 108 municipalities had also participated in the 2009 study. This fact required the use of the panel structure in order to ensure stability of the MCI and its component sub-indices.

An efficient use of the panel data required comparisons to be made with 2009 survey data and with the part of the 2011 survey corresponding to businesses entering the sample for the first time. As a first step, an analysis was conducted, aimed at comparing the 2009 and 2011 MCI samples over the variables of age of businesses, formality status, number of paid employees, and variation in sales relative to previous year. Next, the sub-indices were adjusted by the overlap in the business sample (refer to Panel Data Structure and Derived Survey Weighting section of this ***Technical Appendix***.). Finally, raw 2011 sample indicators were weighted to conform to their respective adjusted sub-indices.

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4 Field staff was made of the six supervisors and the most experienced 16 interviewers used in the data collection for the 2009 MCI.

5 Human Development Index (HDI) (United Nations Development Programme[UNDP], 2006), number of telephones per 100 households (National Census of Population and Housing, 2007) and Distance from San Salvador (in kilometers).

6 Refer to *Full Appendix: Methodological Aspects of the El Salvador Municipal Competitiveness Index (MCI) 2009* (http://www.municipalindexelsalvador.com/gal_documentos/MCI-Full-Appendix.pdf).

COMPARISON OVER BUSINESS AGE AND NUMBER OF PAID EMPLOYEES

The distribution of businesses according to age since starting operations for the 2011 survey was compared against its distribution in 2009. Such a comparison was conducted for the whole 2011 sample, the panel file and the non panel file. An examination of the data revealed that in all cases the mean of the age distribution exceeded its variance. Similar procedures were followed to test for the difference of the employment distributions (refer to ***Tables A-2*** and ***A-3***).

Also, there were more cases in the less than one-year age groups than would be predicted by a Poisson distribution. Both excess of variance and zero inflation prevented us from using a Poisson distribution to perform the comparisons of age distributions, whereas excess of variance invalidated the Poisson model for number of paid employees. Negative binomial distributions were fitted to each file and Chi-squared tests of the similarity of each of the 2011 age distributions and number of employees to the age distribution and number of employees in 2009 were conducted.

Table A-2: Mean and Variance of Age Distributions

		2011 SURVEY		
	2009 SURVEY	Whole File	Panel File	Non Panel File
Mean Age (Years)	9.177	9.320	11.225	8.814
Variance	194.954	193.294	254.107	177.751
% Cases at Cero Years of Age	6.78	3.99	2.11	4.38

Table A-3: Mean and Variance of Number of Paid Employees Distributions

		2011 SURVEY		
	2009 SURVEY	Whole File	Panel File	Non Panel File
Mean Number of Paid Employees	3.949	3.265	2.704	3.345
Variance	67.369	27.349	12.809	30.678
% Businesses with paid employees	53.3	56.5	57.2	56.2

PERCENT OF FORMAL BUSINESSES

Table A-4 shows the distribution of businesses according to formality status across the files. Tests for the difference of the proportion of formal businesses in each of the 2011 files against the 2009 file were conducted.

CHANGE IN SALES RELATIVE TO THE PREVIOUS YEAR

Table A-5 shows the distribution of businesses according to change in sales related to the previous year. The unusual conditions affecting the Salvadoran economy during 2009 might result in an increasing number of businesses reporting either the same level or decreasing sales in the 2011 survey. As a consequence, one would expect that the distribution of businesses by this variable in 2011 be different from the one observed in 2009.

Chi-squared tests based on the Poisson distribution rejected the hypothesis that the distributions for the 2011 files were the same as the distribution of change in sales in 2009.

The tests indicated that neither the age distribution nor the distribution of number of paid employees nor that of formality status in the 2011 files were significantly different from the respective distributions in 2009. On the other side, the distributions of change in sales in the 2011 files were different from the distribution in 2009.

Table A-4: Distribution by Formality Status, 2009 and 2011 Surveys

		2011 SURVEY		
	2009 SURVEY	Whole File	Panel File	Nonpanel File
Nonformal	2,529	2,880	649	2,376
Formal	1,319	1,470	350	1,219
Total	3,848	4,350	999	3,595
% Formal	34.3	33.8	35.0	33.9

Table A-5: Distribution by Change in Sales Relative to Previous Year

		2011 SURVEY		
	2009 SURVEY	Whole File	Panel File	Non Panel File
Diminished or same	44.7	74.1	70.2	74.8
Less than US$1,000	10.1	16.8	19.8	16.3
US$1,000 and less than US$2,000	15.1	5.1	5.9	4.9
US$2,000 and less than US$5,000	12.2	1.7	1.6	1.8
US$5,000 and less than US$10,000	8.3	0.9	1.2	0.9
US$10,000 and less than US$20,000	4.1	0.6	0.7	0.6
US$20,000 and less than US$50,000	2.9	0.5	0.7	0.5
US$50,000 and less than US$100,000	2.5	0.2	0.0	0.2
Total	100.0	100.0	100.0	100.0
Number of businesses reporting change in sales	4,338	3,290	761	2,515

SUB-INDEX ADJUSTMENT BY OVERLAP IN THE BUSINESS SAMPLE

A set of preliminary unadjusted sub-indices was constructed from the whole records of the 2011 sample for the 100 municipalities that participated in both the 2009 and 2011 MCI studies. In addition, another set of sub-indices was constructed from the 2011 survey data corresponding to the overlapping business sample. The overlapping sample was used to derive survey weights such that businesses selected in both the 2009 and 2011 surveys made a greater contribution to the formation of the final sub-indices. This was aimed at ensuring stability and comparability of final sub-indices over time. The following adjustment procedure was applied to each of the nine sub-indices making up the MCI:

- A regression model of the unadjusted 2011 sub-index on the 2009 sub-index was fitted to the data for each of the 100 municipalities participating in both the 2009 and 2011 MCI studies.
- The residuals from the above regression were used further as explanatory variables in a regression for the panel-based sub-index. The predicted value from this regression was used as an estimate of the final 2011 sub-index.
- An iterative proportional fitting algorithm was implemented to derive weighted indicators, which conformed to the respective final sub-indices.

The set of final sub-indices and indicators is available from the documents section in the MCI Web site[7].

INDICATORS

Tables A6–A14 detail the indicators used to construct each Sub-index and their summary statistics, together with references to survey questions.

[7] Refer to: http://www.municipalindexelsalvador.com/index.php?opcion=despliegue_docs&pagina=1&fin=6&y=2011&rdc.

Table A-6: Variables Used to Construct the Transparency Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses not affected by municipal support to informal sector	PRO001E	50.70	84.15	82.67	100.00	14.56	17.62
% Businesses think municipality does not favor businesses owned by people belonging to the mayor's party	PRO001F	48.24	79.05	78.89	100.00	15.12	19.16
% Businesses think municipality does not favor large businesses and does not discriminate against small businesses	PRO001G	25.03	64.60	66.89	100.00	19.34	28.91
% Businesses knowing about the existence of processes for filing complaints or making recommendations	TRA010	13.93	37.65	43.42	100.00	20.93	48.20
% Businesses knowing about the existence of processes for informing citizens about local issues	TRA009	11.59	46.66	47.50	100.00	18.10	38.10
% Businesses perceiving that municipal policies are applied in a consistent manner	PRO001A	12.83	50.95	53.23	100.00	21.56	40.51
% Businesses perceiving that relationships are important for gaining access to documents and/or obtaining permits/licenses	TRA005						
	TRA013	11.61	44.08	43.57	81.75	13.60	31.21
% Businesses gaining easy access to local documents	TRA003A						
	TRA003B						
	TRA003C						
	TRA003D						
	TRA003E						
	TRA003F	8.01	22.76	31.41	100.00	20.47	65.16
% Businesses perceiving that changes to rates/taxes and regulations are predictable	TRA012	16.40	70.80	67.74	100.00	19.05	28.12
% Businesses perceiving municipal tenders as transparent	COS006	83.83	100.00	99.33	100.00	1.87	1.88

Table A-7: Variables Used to Construct the Municipal Services Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses qualifying municipality as good at controlling informal commerce	INF007B1	0.00	14.37	17.61	89.12	15.10	85.75
% Businesses qualifying municipality as good at doing public works during 2007–2008	INF007B2	0.00	11.96	12.82	48.74	8.66	67.51
% Businesses qualifying municipality as good at providing facilities for administrative procedures	INF007B3	0.00	7.71	8.37	38.76	6.30	75.20
% Businesses qualifying municipality as good at providing facilities for tax payments	INF007B4	0.00	5.06	6.28	52.80	6.71	106.84
% Businesses qualifying municipality as good at crime prevention and control	INF007B5	0.00	4.35	5.50	36.77	5.66	102.83
% Businesses qualifying municipality as good at developing labor and entrepreneurship programs	INF007B6	0.00	2.84	3.50	24.47	4.03	115.14
% Businesses qualifying municipality as good at promoting tourism	INF007B7	0.00	22.27	24.15	79.13	14.30	59.20
% Businesses qualifying municipality as good at promoting business opportunities	INF007B8	0.00	21.11	25.02	71.19	14.43	57.66
% Businesses qualifying municipality as good at promoting and supporting local business associations	INF007B9	1.25	25.57	28.81	74.96	14.19	49.24
% Businesses qualifying municipality as good at providing services to attract investors and clients	INF007B10	7.44	33.70	38.58	100.00	19.91	51.60
% Businesses qualifying municipality as good at providing services to facilitate access to credit by local business	INF007B11	0.00	18.57	23.03	100.00	19.44	84.45
% Businesses qualifying municipality as good at export promotion	INF007B12	0.00	0.10	3.12	32.38	5.78	185.21

Table A-8: Variables Used to Construct the Proactivity Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses perceiving that municipality works actively to solve business problems	PRO001B	16.58	59.78	64.30	100.00	24.11	37.50
% Businesses perceiving that municipality has good initiatives, but these are blocked by central government	PRO001C	4.63	36.28	44.71	100.00	25.31	56.60
% Businesses perceiving that not all private-sector related policies come from the central government	PRO001D	0.31	18.05	22.18	96.78	17.72	79.92

Table A-9: Variables Used to Construct the Informal Payments Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses feeling informal payments are a common occurrence	COS001	0.00	0.15	0.20	0.59	0.15	77.44
% Businesses think informal payments do help in gaining access to municipal documents or in obtaining permits/licenses	COS004	0.00	0.00	1.42	15.71	2.78	195.19
% Businesses feeling tenders are fair	COS006	0.00	0.01	3.39	100.00	15.91	469.11
% Businesses perceiving extra tax payments are a common occurrence in the municipality	TAX002	0.00	1.93	4.07	20.70	4.96	121.90
% Businesses have made extra payments to fix municipal tax problems	TAX003	0.00	0.00	0.51	9.96	1.51	297.11

Table A-10: Variables Used to Construct the Public Safety Sub-index

Indicator	Business Survey Questions	Municipal Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses saying that crime was higher in 2008 compared to 2007	CRM002		0.00	15.62	18.12	71.28	16.43	90.71
% Businesses perceiving that crime has increased due to bad municipality work	CRM003		0.00	3.75	5.68	32.90	6.93	121.95
% Businesses perceiving that crime has decreased due to good municipality work	CRM003		0.00	2.92	5.14	41.07	7.74	150.67
Municipal spending on public safety per capita (US$)		FIN002A FIN002M	0.05	0.91	2.15	11.34	2.53	117.58
% Businesses victimized during 2008—robbery or theft	CRM004A							
	CRM004B		0.00	10.25	11.55	44.38	8.62	74.64
% Businesses perceiving that local crime is higher than in neighboring municipalities	CRM001		0.00	14.14	19.77	100.00	20.91	105.76
Cost of crime to businesses per US$1,000 sale increase in 2008	EST005							
	CRM004		0.00	42.02	1437.62	87933.72	9040.27	628.84
% Businesses victimized during 2008—extortion or kidnapping	CRM004C							
	CRM004D		0.00	9.70	10.64	64.96	10.41	97.86

Table A-11: Variables Used to Construct the Time to Compliance Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses inspected in 2008	REG011	1.00	4.18	4.35	11.54	1.82	41.76
Number of inspections per 100 businesses	REG012	1.49	8.02	7.96	13.13	1.89	23.70
% Businesses feeling the number of inspections is above normal	REG014	1.00	1.19	1.70	10.00	1.35	79.69
% Businesses feeling municipal inspectors act fairly	REG015	1.15	8.46	8.34	14.52	2.25	26.98
% Businesses feeling the municipality adequately ensures compliance	REG010	0.00	12.86	15.63	52.91	12.04	77.06

Table A-12: Variables Used to Construct the Rates and Taxes Sub-index

Indicator	Business Survey Questions	Municipal Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Business feeling that local taxes are higher than in neighboring municipalities	TAX004		0.00	19.45	22.20	66.61	15.12	68.08
Number of incentives per 100 businesses		FIN006	0.00	0.04	0.28	4.50	0.67	237.02
Municipality offers tax advantages		FIN005	0.00	0.66	0.56	1.39	0.39	69.98
Tax revenue standardized by municipal services		FIN002D FIN002F FIN002G FIN002H FIN002K FIN002P FIN002Q	-179.99	-13.93	-12.86	100.00	47.18	-366.86

Table A-13: Variables Used to Construct the Entry Costs Sub-index

Indicator	Business Survey Questions	Municipal Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
Effective wait for business premises (days)	REG004B REG004D		0.00	75.31	668.71	20000.00	2304.73	344.65
Length of other business-related permits (days)	REG004C		7.14	228.74	1304.33	20888.89	3297.05	252.78
% Businesses waiting over ONE month to obtain permits to start operations	REG001A		0.03	6.26	7.82	37.17	8.23	105.20
% Businesses waiting over THREE months to obtain permits to start operations	REG001A		0.00	1.46	4.91	28.45	5.99	121.94
% Businesses having problems with obtaining permits/licenses to start operations	REG002A REG005B REG005C REG005D		0.00	0.18	0.88	13.49	2.05	232.42
% Businesses finding it difficult to obtain information on necessary procedures/documents	TRA003B TRA003C TRA003D TRA003E		0.00	0.07	0.60	6.57	1.30	216.39
Total number of documents required to obtain permit for operations		RGB003 RGB004	0.10	5.00	5.07	10.00	2.28	45.03
Time to issue permits to operate (days)		RGB002A RGB002B RGB002C	0.00	6.67	8.25	40.00	7.74	93.74

Table A-14: Variables Used to Construct the Municipal Regulations Sub-index

Indicator	Business Survey Questions	Minimum	Median	Mean	Maximum	Standard Deviation	Coefficient of Variation
% Businesses that feel the number of municipal regulations increased during 2008	REG007	0.00	6.51	9.77	49.13	9.90	101.40
% Businesses that feel the number of municipal regulations is above normal, compared to neighboring municipalities	REG009	0.25	0.71	4.24	29.29	6.75	159.31

SUB-INDEX PERFORMANCE GROUP BREAKPOINTS

The 100 municipalities were classified into five groups with regard to their performance on the index: (1) Excellent, (2) High, (3) Average, (4) Low, and (5) Very Low. In determining the groups, the breakpoints used in 2009—adjusted for the average change in the MCI—were maintained in 2011. They were determined by one-point gaps, with the rationale being that in the short term, it is very difficult for a municipality to improve its ranking by one point or more. Each sub-index had its own category ranges. ***Table A-15*** shows the breakpoints used in 2009 and their 2011 adjusted values

Table A-15: Breakpoints for MCI Performance Group

	PERFORMANCE GROUP				
	Excellent	High	Average	Low	Very Low
MCI	7.30–10	6.11–7.29	5.21–6.10	5.21–0	None
Transparency	7.15–10	6.11–7.14	5.11–6.10	4.11–5.10	1–4.10
Municipal Services	7.50–10	6.01–7.49	4.81–6.00	3.76–4.80	1–3.75
Proactivity	7.75–10	6.26–7.74	5.21–6.24	4.26–5.2	1–4.25
Informal Payments	8.44–10	7.46–8.43	6.46–7.44	5.46–6.45	1–5.45
Public Safety	8.56–10	7.52–8.55	6.52–7.50	5.450–6.51	1–5.49
Time to Compliance	7.70–10	6.96–7.69	5.96–6.94	4.96–5.95	1–4.95
Rates and Taxes	7.56–10	6.61–7.55	5.61–6.59	4.56–5.60	1–4.55
Entry Costs	9.35–10	8.36–9.34	7.41–8.34	6.01–7.40	1–6.00
Municipal Regulations	8.95–10	7.91–8.94	7.21–7.89	5.91–7.20	1–5.90

MCI 2011 Municipality Characteristics

Since the El Salvador MCI study focuses on the impact that good governance has on economic growth, this section provides an overview of the participating municipalities with regard to the major drivers of observed differences in local economic performance.[8] The lack of comprehensive sources of up-to-date statistical data at the municipal level led us to use data from the last population census, conducted in 2007, and data from the human development reports (UNDP, 2006, 2010) to portray a picture of the 108 local governments included in the study. ***Table A-16*** contains municipal data on the following variables related to structural conditions for local economic development:

- **Dependency ratio:** The dependency ratio measures the number of people either too young or too old to work, compared to the number of people within working age. It indicates the potential effects of changing age structures for social and economic development. A high dependency ratio indicates that the economically active population and the overall economy face a greater burden to support and provide the social services needed by children and by older persons who are often economically dependent. High dependency ratios decrease domestic savings and impair an economy's capacity to finance investment (Leff, 1969; Horioka & Terada-Hagiwara, 2011). The data in ***Table A-16*** show that the dependency ratio varied from a minimum of 43.5 for Antiguo Cuscatlán which with US$16,491 was the municipality with the highest per capita gross domestic product (GDP), and a maximum of 104.2 for Lislique that recorded the second lowest per capita GDP at US$1,892 in 2006. As expected, a negative correlation coefficient of -0.76 indicates that a higher dependency ratio was associated to a lower per capita GDP (refer to ***Figure A-1***).

- **Urban population as per cent of total population:** Economic growth and urbanization are strongly related. Urbanization improves the business environment of local areas as it activates industrial growth by supporting priority infrastructure investment which in turn triggers local economic development leading to more productivity, increased income and job opportunities (Cohen 2006, Quigley, 2008). Consistent with the literature, the data in ***Figure A-1*** show a positive correlation coefficient of 0.68 of urbanization with per capita GDP. ***Table A-16*** shows the urbanization rate varying from a minimum of 3.5 for Lislique and a maximum of 100 for most municipalities located in the San Salvador Metropolitan Area, among which Antiguo Cuscatlán and Santa Tecla recorded the highest values for per capita GDP.

- **Percent population with secondary and higher schooling.** Economic theory identifies that human capital as an important determinant of growth. Though only one component of human capital, higher levels of educational attainment have been related to increases in physical investment, reduced fertility and improved productivity (Becker et al, 1990; Barro 1991,1998; Hanushek & Woessmann, 2009; Aghion et al, 2009). Data in ***Table A-16*** show the measure of educational attainment varying from a minimum of 3.3% for Lislique and a maximum of 62.4 for Antiguo Cuscatlán. The correlation coefficient of this variable with per capita GDP was 0.88 (refer to ***Figure A-1***).

- **Phones per 100 households.** This is a measure of the affordability of communications. Telecommunications infrastructure allows businesses to reach larger amounts of suppliers and potential clients, as well as increasing the speed of their transactions. In 2007, there were 91 phones per 100 households in El Salvador. This number varied from a minimum of 38.5 in Guaymango to a maximum of 167.5 in Antiguo Cuscatlán. The data in ***Figure A-1*** show that number of phones per 100 households had a correlation coefficient of 0.77 with per capita GDP.

- **Distance from San Salvador.** This variable measures a key aspect of the economic geography of El Salvador's municipalities. San Salvador, the capital city, concentrates most of the economic and central government activity. The data in ***Figure A-1*** confirm that as expected, the longer the road distance

[8] The variables included in ***Table A-16*** correspond to those used by Barro (1998) to explain country differences in economic growth. Literature on economic growth at the municipal level is almost inexistent.

separating the main seat of a municipality from San Salvador, the lower its per capita GDP (correlation coefficient of -0.32).

- **HDI.** The HDI incorporates indictors relating to life expectancy at birth, school enrolment, and adult literacy. It also uses the per capita GDP as an

Table A-16: Main Characteristics of the Municipalities Included in the 2011 MCI Study

Municipality	Population (1)	Urban Share of Population (1)	Dependency Ratio (1)	% with Secondary & Higher Schooling (1)	Phones per 1,000 Households (1)	Distance from San Salvador (3)	Human Development Index (2)	Per Capita GDP (4)
Acajutla	52,359	43.8	73.4	14.7	86.5	65.9	0.69	3,719
Aguilares	21,267	89.1	72.1	20.4	106.7	26.1	0.73	4,572
Ahuachapan	110,511	54.9	68.3	19.4	77.1	70.0	0.70	3,567
Alegría	11,712	12.8	80.5	16.0	134.9	108.0	0.65	2,068
Anamoros	14,551	10.7	81.9	7.4	81.9	132.6	0.62	3,017
Antiguo Cuscatlán	33,698	100.0	43.5	62.4	167.5	3.7	0.87	16,491
Apastepeque	18,342	23.8	80.6	15.6	84.1	51.0	0.65	2,446
Apopa	131,286	100.0	58.7	28.4	109.5	11.8	0.75	5,075
Armenia	34,912	66.9	73.0	14.4	66.8	29.1	0.69	3,736
Atiquizaya	33,587	59.1	65.1	22.8	80.6	60.8	0.71	3,871
Ayutuxtepeque	34,710	100.0	51.4	42.0	129.3	6.8	0.78	7,247
Berlín	17,787	52.4	84.1	17.4	81.3	64.6	0.66	2,795
Caluco	9,139	15.1	79.0	8.2	83.2	61.0	0.61	1,590
Candelaria De La Frontera	22,686	34.4	69.7	12.4	94.0	60.6	0.68	3,227
Chalatenango	29,271	56.2	66.0	27.0	103.3	45.7	0.71	4,298
Chalchuapa	74,038	61.4	63.9	22.1	90.7	57.3	0.74	4,776
Chinameca	22,311	26.3	76.1	23.1	81.8	90.4	0.69	3,826
Chirilagua	19,984	14.4	86.7	7.9	89.8	116.3	0.64	3,556
Ciudad Arce	60,314	66.5	70.4	16.3	92.5	24.7	0.70	4,222
Ciudad Barrios	24,817	27.5	83.9	11.9	87.5	91.7	0.63	2,810
Coatepeque	36,768	34.5	77.4	10.0	80.0	33.1	0.66	2,727
Cojutepeque	50,315	78.9	66.2	26.0	98.7	27.9	0.75	4,779
Colón	96,989	93.3	63.2	26.2	111.0	14.6	0.74	5,005
Comasagua	11,870	22.0	78.6	10.7	62.9	28.0	0.63	2,060
Conchagua	37,632	43.1	82.0	12.7	97.7	138.5	0.64	3,168
Corinto	15,410	19.0	97.3	6.6	76.3	122.3	0.57	2,291
Cuscatancingo	66,400	100.0	59.1	32.0	118.5	9.3	0.78	5,833
Delgado	120,200	92.8	59.5	30.4	105.2	8.6	0.76	5,397
El Carmen	13,345	13.9	84.2	11.2	48.7	32.4	0.66	2,790
El Congo	24,219	56.1	74.2	14.4	91.5	33.7	0.71	3,183
El Paisnal	14,551	45.3	76.4	12.2	88.9	31.5	0.67	3,017
El Rosario	16,784	53.6	73.1	14.9	79.2	31.4	0.70	4,894
El Tránsito	18,363	40.4	79.1	18.8	95.3	98.5	0.67	4,192
Guaymango	19,037	6.1	79.5	7.1	38.5	64.4	0.60	1,833
Guazapa	22,906	62.4	70.2	16.6	88.5	22.2	0.70	4,052

Table A-16: Main Characteristics of the Municipalities Included in the 2011 MCI Study *(continued)*

Municipality	Population (1)	Urban Share of Population (1)	Dependency Ratio (1)	% with Secondary & Higher Schooling (1)	Phones per 1,000 Households (1)	Distance from San Salvador (3)	Human Development Index (2)	Per Capita GDP (4)
Huizucár	14,465	30.7	78.1	12.4	61.9	12.3	0.64	2,332
Ilobasco	61,510	33.3	88.7	14.0	88.4	41.7	0.65	2,731
Ilopango	103,862	100.0	57.3	35.4	124.8	10.5	0.78	6,521
Izalco	70,959	54.3	70.2	16.5	75.6	41.1	0.68	3,150
Jiquilisco	47,784	41.0	80.0	15.0	80.5	66.5	0.67	3,507
Juayúa	24,465	54.0	65.7	19.9	82.7	52.2	0.71	4,456
Jucuapa	18,442	53.3	75.2	24.4	90.5	82.8	0.71	3,900
Jucuarán	13,424	7.6	89.3	7.3	77.4	107.7	0.65	2,458
Jujutla	28,599	21.5	87.2	6.8	65.0	71.9	0.60	2,090
La Libertad	35,997	61.8	74.5	15.6	87.0	21.1	0.69	3,577
La Unión	34,045	51.9	77.8	13.9	107.5	144.4	0.72	5,053
Lislique	13,385	3.6	104.2	3.3	67.3	130.5	0.57	1,892
Lolotique	14,916	29.5	80.7	19.8	73.7	87.5	0.67	3,062
Mejicanos	140,751	100.0	53.1	46.8	136.2	5.5	0.82	9,187
Metapán	59,004	28.8	74.7	11.7	103.0	66.3	0.68	4,429
Moncagua	22,659	27.8	73.2	13.0	94.3	97.2	0.63	2,602
Nahuizalco	49,081	67.1	73.9	14.2	54.8	50.6	0.64	2,706
Nejapa	29,458	52.8	65.0	18.3	85.3	14.1	0.67	3,392
Nueva Concepción	28,625	31.7	78.4	12.7	96.9	46.2	0.65	3,563
Nueva Guadalupe	8,905	55.8	70.5	30.7	98.6	120.0	0.76	5,129
Olocuilta	29,529	77.8	54.2	25.1	88.4	16.8	0.73	5,369
Panchimalco	41,260	35.6	79.3	17.8	60.8	13.5	0.67	3,544
Pasaquina	16,375	21.0	77.2	12.5	100.4	142.2	0.67	4,432
Puerto El Triunfo	16,584	57.3	74.9	13.9	98.4	79.8	0.68	3,577
Quezaltepeque	52,643	64.6	63.2	23.6	92.9	16.6	0.72	4,480
San Alejo	17,598	15.9	83.4	11.5	95.1	133.2	0.64	3,284
San Antonio Del Monte	26,902	71.5	66.9	24.3	94.6	54.2	0.72	4,195
San Bartolomé Perulapía	11,790	56.2	70.0	21.5	82.1	21.0	0.74	4,444
San Francisco Gotera	21,049	75.2	70.3	23.9	98.6	112.4	0.70	4,516
San Francisco Menéndez	42,607	27.1	88.1	7.3	83.2	83.0	0.64	2,774
San José Villanueva	13,576	77.8	70.9	17.2	89.4	13.0	0.69	3,542
San Juan Nonualco	17,256	39.0	72.4	20.5	80.4	37.9	0.68	3,122
San Juan Opico	74,280	56.9	71.8	18.8	94.3	23.0	0.70	3,758
San Julián	18,648	48.8	77.1	11.6	75.8	35.7	0.64	2,340

Table A-16: Main Characteristics of the Municipalities Included in the 2011 MCI Study *(continued)*

Municipality	Population (1)	Urban Share of Population (1)	Dependency Ratio (1)	% with Secondary & Higher Schooling (1)	Phones per 1,000 Households (1)	Distance from San Salvador (3)	Human Development Index (2)	Per Capita GDP (4)
San Luis De La Herradura	20,405	41.4	75.0	9.5	71.0	44.6	0.67	3,578
San Luis Talpa	10,373	60.5	74.5	13.1	72.8	27.5	0.67	4,285
San Marcos	63,209	100.0	57.6	35.1	121.0	5.0	0.76	5,263
San Martín	72,758	89.5	63.4	23.5	105.5	16.8	0.73	4,646
San Miguel	218,410	70.4	68.1	30.2	118.5	107.2	0.73	5,449
San Pablo Tacachico	20,366	24.7	83.3	12.7	86.5	34.2	0.66	3,047
San Pedro Masahuat	25,446	50.7	76.3	11.9	73.4	29.8	0.67	3,488
San Pedro Perulapán	44,730	31.3	73.7	14.6	61.6	21.7	0.68	3,305
San Rafael Cedros	17,069	28.6	81.6	16.1	70.2	35.0	0.71	5,266
San Salvador	316,090	100.0	52.4	48.6	140.7	0.0	0.81	9,230
San Sebastián	14,411	42.9	80.9	23.9	89.3	41.5	0.70	3,473
San Sebastián Salitrillo	18,566	93.5	63.1	25.5	110.9	51.2	0.69	3,702
San Vicente	53,213	64.0	67.8	24.7	101.8	52.8	0.70	4,310
Santa Ana	245,421	79.9	60.2	28.3	110.5	40.7	0.76	5,396
Santa Cruz Michapa	8,058	54.3	72.2	13.6	86.0	29.0	0.69	3,846
Santa Elena	17,342	27.2	77.5	24.8	92.1	84.6	0.67	2,959
Santa María Ostuma	5,990	24.5	84.3	14.8	52.4	65.0	0.66	2,370
Santa Rosa De Lima	27,693	47.5	73.3	18.6	104.0	130.4	0.71	5,367
Santa Tecla	121,908	86.5	49.1	53.4	148.7	11.8	0.83	10,203
Santiago De María	18,201	77.8	72.4	30.0	97.6	78.3	0.71	4,012
Santiago Nonualco	39,887	28.0	78.9	15.8	70.8	33.6	0.69	3,228
Santiago Texacuangos	19,428	63.3	62.7	21.1	85.6	11.8	0.70	4,345
Santo Tomás	25,344	73.2	63.3	24.1	96.2	8.7	0.75	5,601
Sensuntepeque	40,332	32.9	87.3	15.4	98.8	59.6	0.67	3,599
Sonsonate	71,541	65.1	64.6	24.9	105.4	50.2	0.73	4,907
Sonzacate	25,005	100.0	60.8	33.0	121.9	50.1	0.81	8,443
Soyapango	241,403	100.0	53.0	40.2	130.3	7.8	0.80	6,968
Suchitoto	24,786	28.0	79.6	12.4	78.9	31.0	0.67	2,594
Tacuba	29,858	15.3	89.4	8.0	41.8	76.8	0.62	1,973
Talnique	8,254	58.1	73.4	10.8	70.7	34.0	0.65	2,940
Tamanique	13,544	25.3	84.1	8.8	77.2	22.6	0.63	2,438
Tecoluca	23,893	42.5	80.2	11.0	69.5	52.0	0.61	2,292

Table A-16: Main Characteristics of the Municipalities Included in the 2011 MCI Study *(continued)*

Municipality	Population (1)	Urban Share of Population (1)	Dependency Ratio (1)	% with Secondary & Higher Schooling (1)	Phones per 1,000 Households (1)	Distance from San Salvador (3)	Human Development Index (2)	Per Capita GDP (4)
Tejutla	13,608	38.7	78.5	13.6	92.4	46.9	0.66	3,360
Tepecoyo	14,322	56.4	76.1	12.7	72.2	27.0	0.67	2,939
Texistepeque	17,923	16.6	77.1	9.7	96.0	52.6	0.67	3,183
Tonacatepeque	90,896	82.9	63.6	28.1	107.4	14.0	0.72	4,607
Usulután	73,064	68.6	70.3	26.2	107.2	86.1	0.73	4,816
Zacatecoluca	65,826	62.0	74.3	22.3	88.1	41.1	0.71	4,230
Zaragoza	22,525	77.2	63.8	24.9	106.2	14.0	0.70	3,615

Sources:

(1) 2007 Population Census (DIGESTYC, 2008)

(2) Report on Human Development (UNDP, 2006)

(3) Minister for Tourism

(4) UNDP, 2006

input. It is not surprise that the higher the value of a municipality's HDI the higher its per capita GDP (refer to ***Figure A-1***).

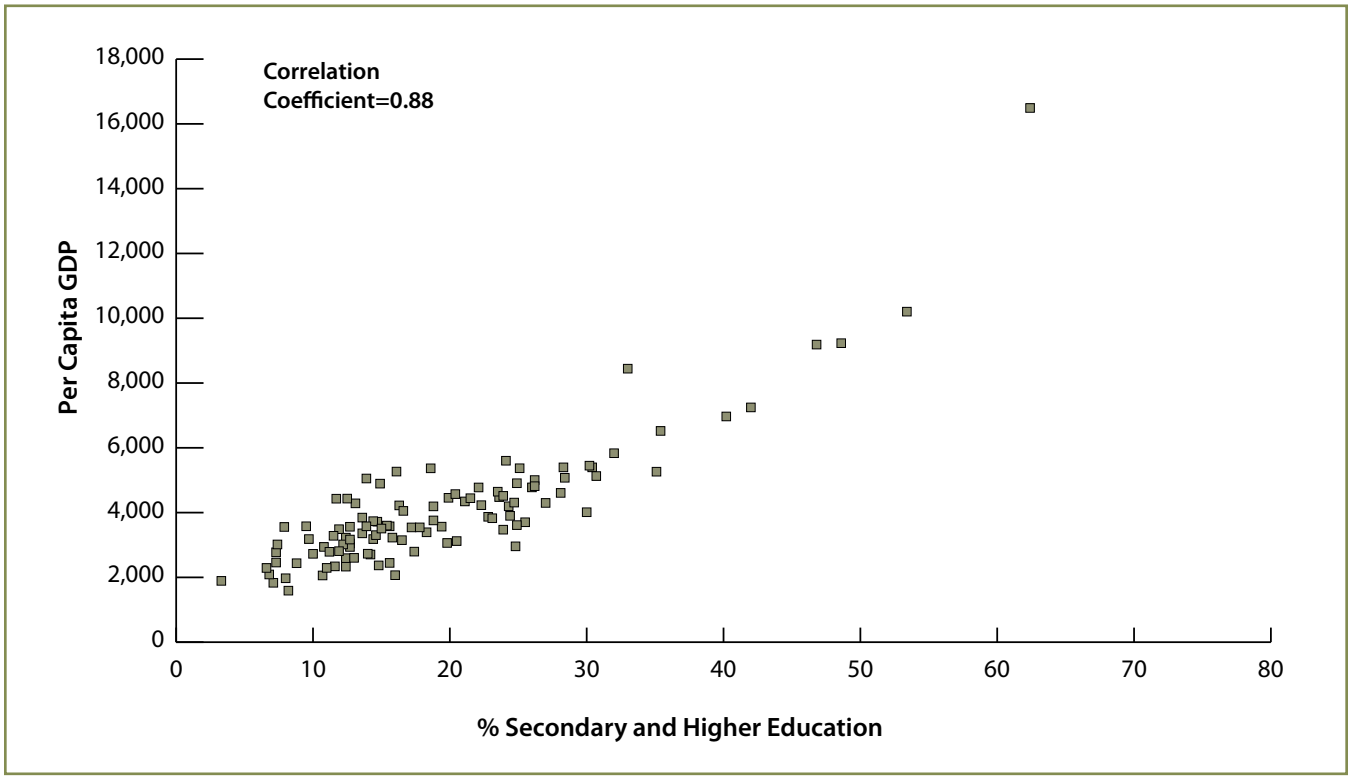
These characteristics correlate differently with local economic growth. This is illustrated in the bar charts and scatter plots below.

The data of the six scatter plots shown in ***Figure A-1*** indicate that

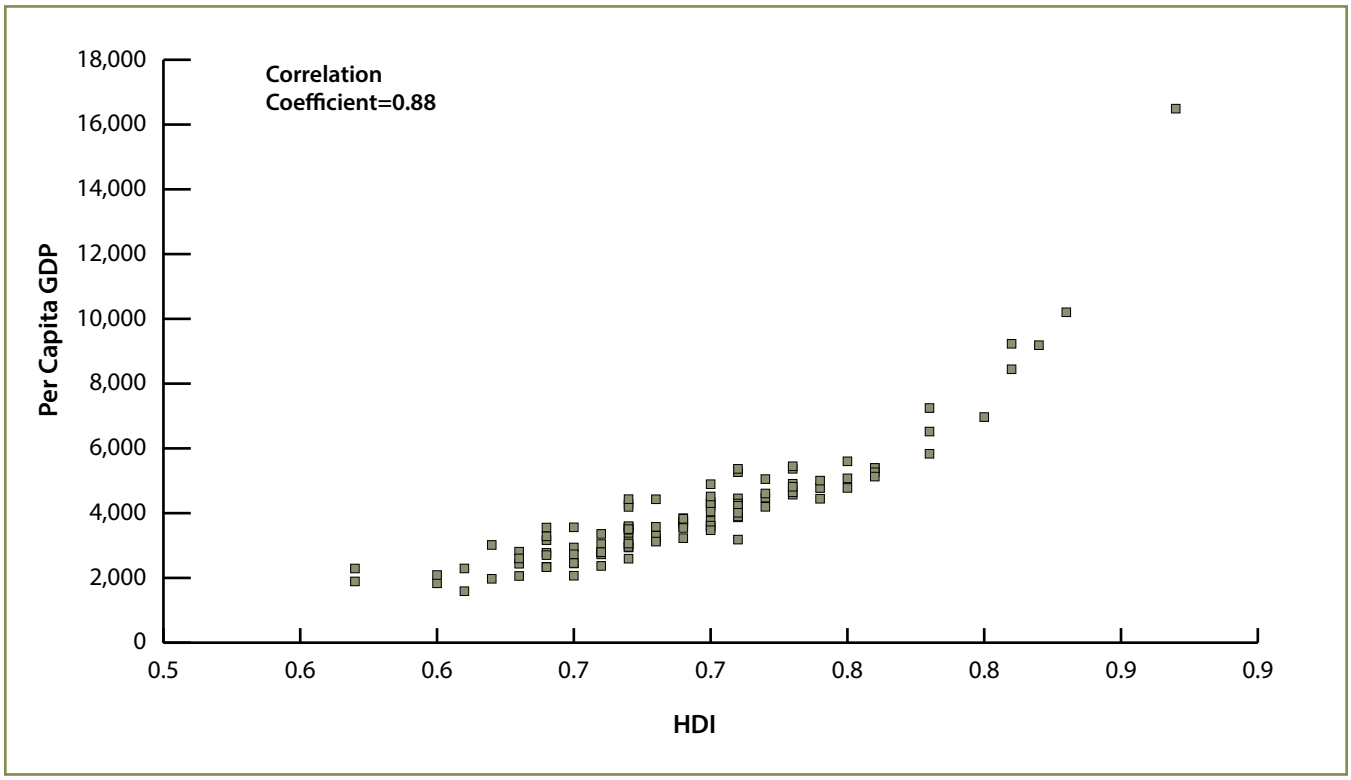
- The measure of educational attainment varied from a minimum of 3.3% for Lislique and a maximum of 62.4 for Antiguo Cuscatlán. The correlation coefficient of this variable with per capita GDP was 0.88
- The higher the value of a municipality's HDI the higher its per capita GDP (Correlation coefficient of 0.88).
- The number of phones per 100 households had a correlation coefficient of 0.77 with per capita GDP.
- A positive correlation coefficient of 0.68 of urbanization with per capita GDP.
- The longer the road distance separating the main seat of a municipality from San Salvador, the lower its per capita GDP (correlation coefficient of -0.32)
- A higher dependency ratio was associated to a lower per capita GDP (correlation coefficient of -0.76)

Figure A-1: Municipal Characteristics and Per Capita GDP

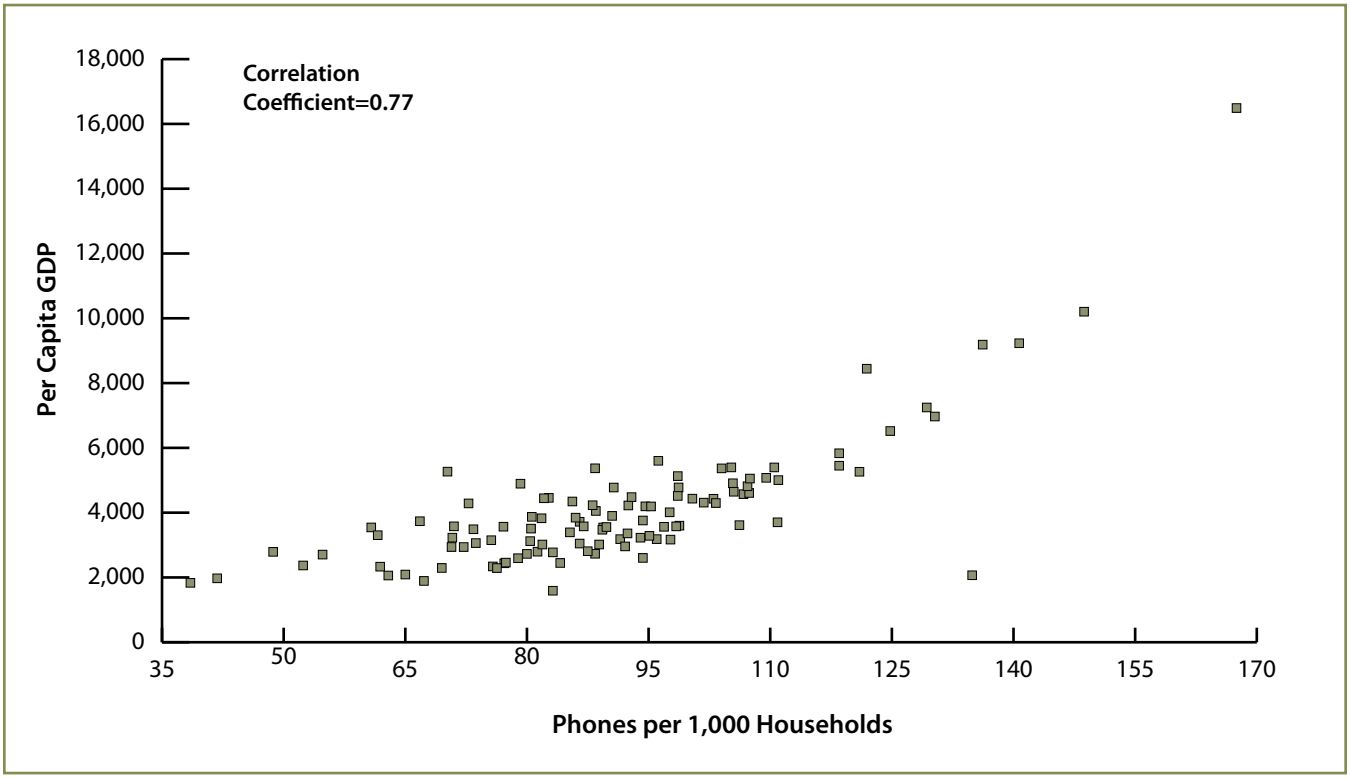
(a) Population 18 Years and Over with Secondary and Higher Education as Percent of Total Adult Population



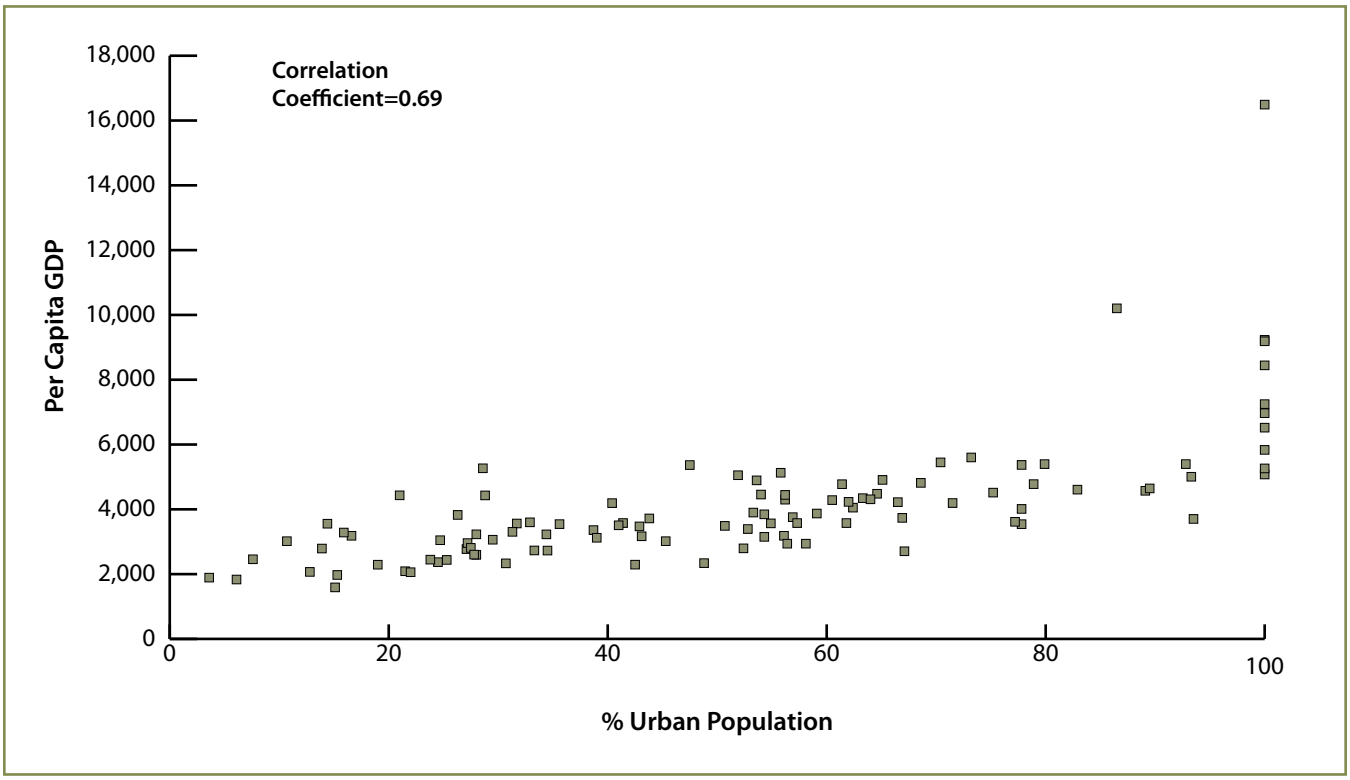
(b) HDI



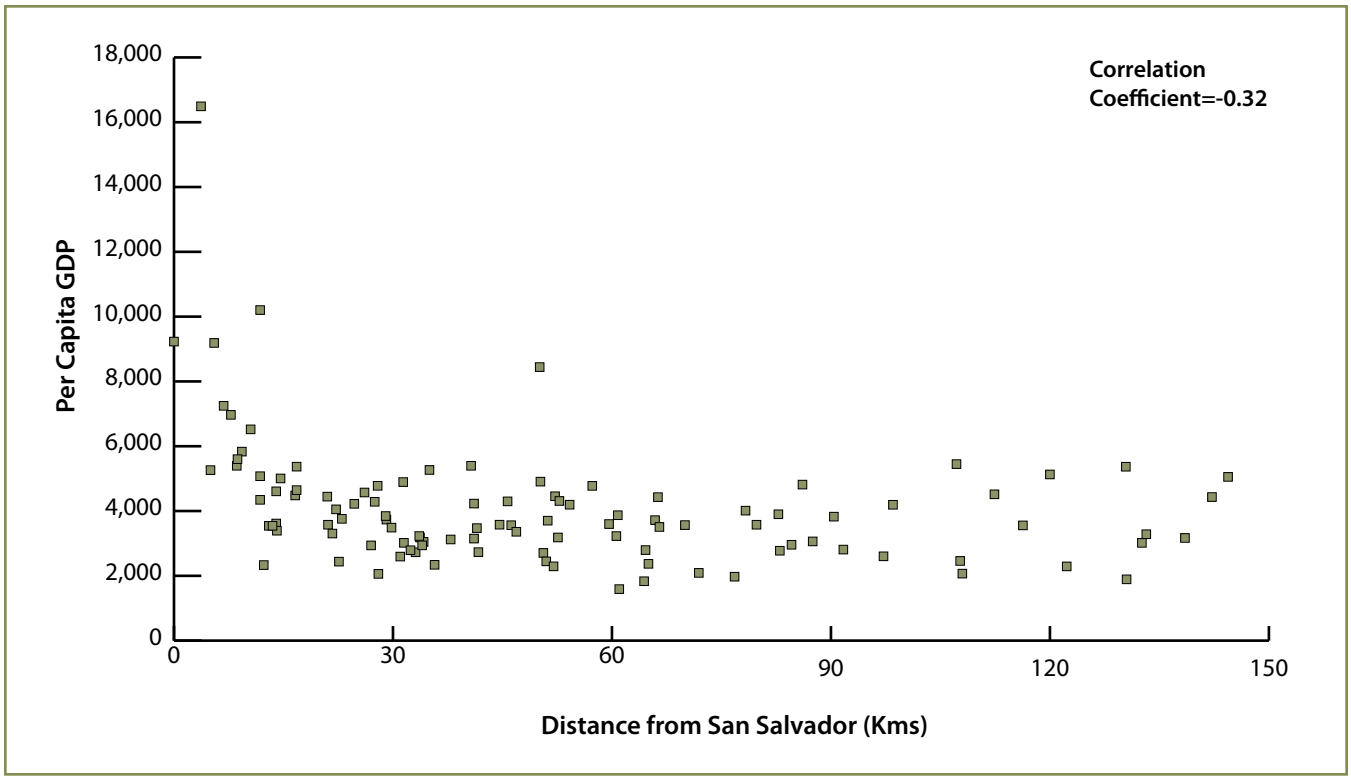
(c) Phones per 1,000 Households



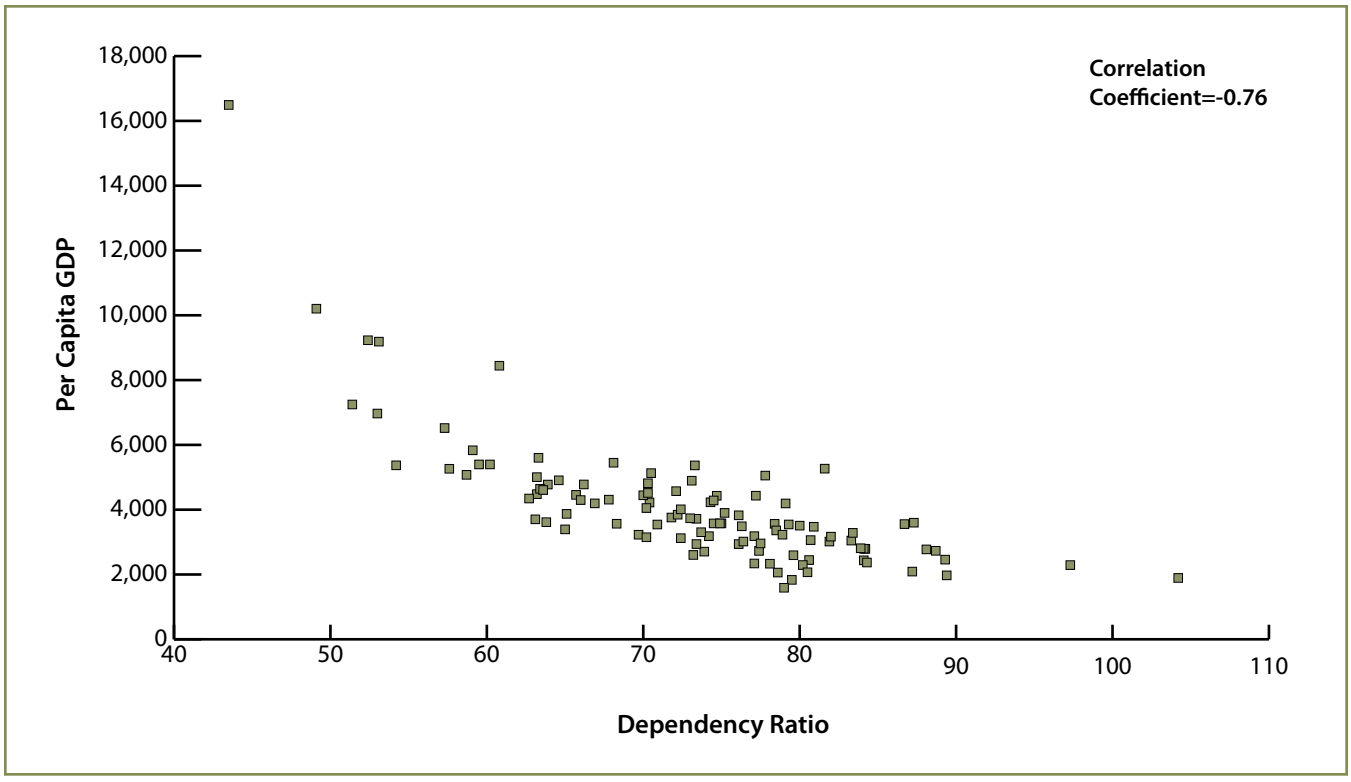
(d) Urban Share of Total Population



(e) Distance from San Salvador in Kilometers



(f) Dependency Ratio



Impact of Governance In Potential Growth: Modeling Methodology

Maddison (1991) distinguished proximate causes and ultimate causes of economic performance. Proximate causes include labor, capital and technology. Ultimate causes include institutions and governance. The former have been used to calculate potential outputs, whereas the latter help to investigate the impact of reforms in factor productivity.

An econometric model of change in per capita GDP on change in investment and governance was fitted to the data. This study used the number of businesses registered as a proxy for the proximate factors of growth. Business units use combinations of labor, capital and technology to produce goods and services. It is reasonable to assume that the greater the number of businesses that operate from a municipality, the greater is their utilization of production inputs subject to the constraints of the economic environment and local resource base. Change in governance is measured with changes in the El Salvador MCI components between 2009 and 2011. In addition, the model included 2009 average business sales as a proxy for past local economic conditions that might have an influence on future investment decisions. For a municipality, the model equation was as follows.

$$ln(PC\_PIB_{2010}) = ß_0 + ß_1 ln(PC\_PIB_{2009}) + ß_2 ln(NBR_{2010}) + ß_3 ln(ABS_{2009}) + ß_4 ln\Delta(GOV)_{2010} + \mu_{2010}$$

where,

PC_PIB_{2010} = Estimate of Per Capita GDP in 2010,

PC_PIB_{2009} = Estimate of Per Capita GDP used in the 2009 MCI study,

NBR_{2010} = Number of business registered in a municipality in 2010,

ABS_{2009} = Average business sales in 2009, and

$\Delta(GOV)_{2010}$ = Change in governance measures in 2011 relative to 2009.

This equation links present potential municipal per capita GDP to a weighted average of a proxy for accumulated investment, past economic conditions, initial per capita GDP, and changes in economic governance.

Data on the 2010 municipal per capita GDP was not readily available. A ratio estimation procedure was implemented to obtain estimates for this variable. This procedure combined data on percent changes in nominal GDP by main economic activity from 2006 through to 2010, obtained from the Central Reserve Bank, with the sectoral composition of the numbers of businesses counted by the 2005 Economic Census within each municipality. The percent changes in GDP by economic activity were weighted by the percentage of businesses for each activity according to the economic census to obtain an estimate of the percent change in the per capita GDP for each municipality.

The impact of governance on potential growth was assessed by a two-step modeling procedure. The first step estimated the potential per capita GDP from a regression of the natural logarithm of the 2010 per capita GDP on 2009 per capita GDP, natural logarithm of number of registered businesses in 2010, and 2009 average sales increase. ***Table A-17*** shows the estimated regression coefficients from this model.

Regression diagnostics indicated that the residuals from this regression were both normally distributed and homoskedastic. Potential growth was measured from the predicted per capita GDP, and the growth gap from the ratio of potential to achieved per capita GDP.

The second stage regressed the growth gap on the changes in each of the MCI sub-indices to test the hypothesis that good governance has a significant and positive impact on potential for economic growth. ***Table A-18*** shows the estimated regression coefficients from this model.

A Breusch-Pagan test indicated that the errors of this regression were homoskedastic. The estimated coefficients in ***Table A-18*** suggest that changes in the Time to Compliance and Informal Payments sub-indices were associated to variations in the municipal gap in per capita GDP. A 1% increase in the value of the Informal Payments Sub-index reduces by 0.98% the output gap of a municipality. Also, a 1% increase in the value of the Time to Compliance Sub-index reduces the output gap by 0.26%. Changes in the remaining sub-indices do not have a significant effect on the per capita GDP gap.

Table A-17: Model for Potential Growth Regression Estimates Dependent Variable: Natural Logarithm 2010 Per Capita GDP

	Coefficients
Per capita GDP 2009 MCI Study	0.00019**
Natural Logarithm Number Registered Businesses, 2011	0.03669**
Average increase in sales, 2008	0.00001*
Constant	7.22905**
R-Square	0.796

** Significant at the 5% level

* Significant at the 10% level

Table A-18: Model for Impact of Governance on Gap in Growth Regression Estimates Dependent Variable: Gap in Municipal Growth

	Coefficient	Standard Error
Change in Transparency – Natural Logarithm	0.029	0.316
Change in Municipal Services – Natural Logarithm	0.216	0.184
Change in Proactivity – Natural Logarithm	-0.139	0.235
Change in Informal Payments – Natural Logarithm	-0.981	0.399
Change in Public Safety – Natural Logarithm	-0.334	0.296
Change in Compliance – Natural Logarithm	-0.257	0.149
Change in Rates and Taxes – Natural Logarithm	0.039	0.161
Change in Entry Costs – Natural Logarithm	0.200	0.161
Change in Regulations – Natural Logarithm	0.355	0.383
Constant	0.087	0.901
R-Squared	0.351	

** Significant at the 5% level

* Significant at the 10% level